

**THE
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation
INCORPORATING

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GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export.

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions.

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas.

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:

Mondays to Fridays 9.30 a.m. till 5.30 p.m.

The office is closed on Saturdays.

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter.

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards.

Post-War Markets for Railway Equipment

IN Great Britain the paramount necessity for devoting all their resources to the successful rehabilitation of the war leaves manufacturers of railway rolling stock and equipment little opportunity to prepare against post-war conditions. There can be no doubt, however, of the need for active estimation of the problems which will then arise, and for preparations to deal with the problems. In the United States railway equipment manufacturers are being urged to consider post-war export markets, and in a recent issue of *Domestic Commerce*, the organ of the U.S.A. Department of Commerce, Mr. W. Rodney Long, Machinery & Motive Products Unit, Bureau of Foreign & Domestic Commerce, points out that, notwithstanding the prospective demands of the great rehabilitation programme which will arise after the war, "manufacturers now should direct their thinking to the pre-war export markets, primarily our neighbours to the South." He points out that extensive railway construction programmes in several of the American republics have been cancelled, but most of them will be carried out after the war, and it is to this particular field that the locomotive and rolling stock building industries should now be directing some attention as how best to obtain this business in competition with foreign builders. There can be no doubt, of course, that the demand for railway equipment of all kinds will be very heavy immediately after the war, but that period will pass and British industry should lose no time in making long-term plans.

A Post Office Request

Sir Thomas Gardiner, Director-General of the Post Office, has written to the President of the Association of British Chambers of Commerce asking him to call the attention of the members of the Chambers of Commerce to the desirability of reducing the number of long-distance telephone calls and the use of telegrams when letters would serve the same purpose. Sir Thomas Gardiner makes the point that by curtailing facilities and extending hours of duty it will be possible for the Post Office to spare an additional 7,000 men for war purposes, but in the case of the telephone and telegraph services, the staff is 10,000 above pre-war strength, due to "the inordinate increase" in the use of long-distance telephone and telegraph; there are now 70 per cent. more trunk calls daily than there were before the war. The value of business discussions by telephone is not disputed, but it is thought that many matters now the subject of trunk calls might be dealt with equally well by letter. It must be a delicate point of balance, perhaps, as to when it is better to use the telephone than the paper required for letter and envelope, and when to obey the injunctions to save all possible paper and add to the calls on the Post Office staff.

Railway Nationalisation Again

Sir William Wood, President of the L.M.S.R., has replied to an article in the *Star* by Mr. George Ridley, M.P., who had stated that "Railways must be nationalised as the only sensible way out of the present situation," and had urged the general maintenance of Government control of industry. Sir William Wood in his reply pointed out that it was idle to argue that the Government's need to be assured of complete priority in the case of railway equipment for war purposes had any bearing on peacetime needs. The same false argument could be applied to conscription continuing for peacetime needs. He refuted Mr. Ridley's statement that the railways cannot, under any control, be an efficient instrument of transport because they cannot secure the necessary finance, and pointed out that their present efficiency was not in doubt but had been achieved by the sacrifice of railway owners. Replying to the point that less than 25 years ago competition between the railways "was wasteful, fierce, and stupid," Sir William pertinently rejoined that "between 1914 and 1921 the railways were under Government control, but in 1913, when they were not, there were wide agreements for pooling competitive traffic."

C.P.R. and N.A.A.F.I. Organisation

Mr. W. M. Neal, Vice-President of the Canadian Pacific Railway, and Mr. B. W. Roberts, General Purchasing Agent of that railway, have arrived in Great Britain as the guests of the Navy, Army & Air Force Institutes, and during the three weeks or so of their stay here are visiting many parts of the country. Primarily, they will see N.A.A.F.I. establishments, more particularly those serving the Canadian troops in Great Britain, but occasion will also be taken to meet British railway officers, and to see British railway methods of operation. The connection between the C.P.R. and N.A.A.F.I. is close, for when, in order to ease the strain on home supplies, N.A.A.F.I. opened an office in Montreal to organise the flow of Canadian goods to

canteens overseas, the Canadian Pacific Railway placed the whole of its purchasing agency gratuitously at the disposal of the Navy, Army & Air Force Institutes. This action enabled the organisers of the institutes to secure canteen stocks on a large scale with the minimum of delay and expense. Portraits and some biographical details of Mr. Neal and Mr. Roberts are given on page 287.

Canadian Wartime Railway Publicity

A striking series of newspaper advertisements has been issued recently under a joint scheme of the Canadian National Railways and the Canadian Pacific Railway Company, and we have recently seen the portfolio of these, covering the period from March to June of the present year. They are termed "institutional advertisements" inasmuch as they are publicising the war work of railways in general, and are neither seeking traffic nor endeavouring to secure goodwill, but are telling the wartime story of the Canadian railway industry. For magazine use, some of the designs have been prepared for two-colour reproduction, and in one case there is a four-colour design. Bilingualism is covered by the issue of a corresponding series in the French language. In the main, the theme of the text is factual and covers such points as the haulage by Canadian railways last year of 150,000,000 tons of materials, foods, and munitions, or double the pre-war traffic. There were 20,000,000 new passengers, mainly fighting men and war workers. Some 22,000 Canadian railwaymen are serving with the Armed Forces of their country. With some designs, such injunctions are included as "Avoid travelling over week-ends and holidays," "Buy Victory Bonds and Certificates," and "Give to the Red Cross." The running slogan of the series is "Carrying the load in war and peace," and many of these advertisements also contain the announcement "Canadian freight rates are the lowest in the world."

Overseas Railway Traffics

Argentine railway stocks have not maintained all their recent improvement, but traffics are rather better, and the Central Argentine aggregate receipts for the ten weeks of the financial year are now on the right side, as those of the Buenos Ayres Great Southern have been for some time. Among Brazilian railways the San Paulo has been steadily registering traffic advances, aided, no doubt, by the higher tariffs authorised, and its total gain for the period January 1 to August 29, 1943, is now £188,752. At September 4 the respective aggregate increases on the Great Western and the Leopoldina were £192,400 and £134,021, but the greatly increased costs have to be taken into account.

	No. of week	Weekly traffics £	Inc. or decrease £	Aggregate traffic £	Inc. or decrease £
Buenos Ayres & Pacific*	10th	89,400	+ 2,460	759,120	- 50,160
Buenos Ayres Great Southern*	10th	161,160	+ 36,060	1,310,940	+ 109,740
Buenos Ayres Western*	10th	57,960	+ 3,240	444,060	- 25,440
Central Argentine*	10th	144,270	+ 20,610	1,191,258	+ 12,366
Canadian Pacific	35th	1,896,000	+ 369,600	37,946,200	+ 4,943,600

* Pesos converted at 16½ to £.

Aggregate gross earnings of the Canadian Pacific Railway for the first seven months of 1943 amounted to £32,575,000, an increase of £3,983,200 in comparison with the first seven months of 1942, but the net earnings of £5,026,600 showed a decrease of £16,800.

Public Relations for Provincial Buses

Until recently, public relations organisations have been established mainly, if not exclusively, by large centralised undertakings such as the London Passenger Transport Board and the main-line railways. An entirely separate problem is presented by such an industry as that of the provincial bus companies, for, although this is a well-knit industry, it has been found desirable for the activities of a particular area to be conducted by a local company in intimate touch with local needs, and enjoying a large measure of autonomy. Such central organisations as exist are concerned chiefly with finance, legal matters, and bulk purchases of stores, and not with the direction of local policy and local goodwill. There are many advantages in this arrangement, from the viewpoint of both the bus operator and the passenger, but, heretofore, there has been the disadvantage that the provincial bus industry has lacked a representative voice to explain its combined achievements, and to speak with authority of its difficulties—two important aspects in the maintenance of good public relations. To meet such a need, it may be recalled that a committee was established last year with the title of the British Omnibus Companies Public Relations Committee, under the presidency of Mr. Sidney Garcke. It now represents 61 companies in England, Scotland, and Wales, with total fleets of 13,268 buses. The report of the executive committee appears on page 293.

The New Zealand Railways in 1942-1943

The two previous annual statements of the New Zealand Government Railways have each reported record achievements, and in the year ended March 31, 1943, the facts which combined to produce these records both continued and also increased in tempo to such an extent that the railways of the Dominion have had to meet the heaviest demands ever yet made upon them. The financial results of the year's operations are highly satisfactory. The gross revenue for the year amounted to £14,128,993, an increase of no less than 18.35 per cent., and £2,190,655 in excess of the record of the previous year. Expenditure for the twelve months was £11,302,413, and the net revenue £2,826,580. These figures represent increases of £1,246,379 (12.99 per cent.) and £944,276 (50.17 per cent.) respectively compared with 1941-42. On a percentage basis the net return on capital was 4.31 per cent., and the surplus of net revenue over interest charges amounted to £203,867. Thus, for the first time since 1926, the net revenue has been more than sufficient to meet the full interest charges; in fact, it is probably the first time that the railways can be said to have met their obligations in full, for in the year ended March 31, 1926, the interest charges were met only by reason of the payment from the Consolidated Fund of a subsidy on branch lines amounting to £359,540, while before the reorganisation of the accounting system on April 1, 1925, no provision was made for depreciation, renewals, and reserves, and no annual contribution to the Railways Superannuation Fund was required. The open mileage of 3,460 was 70 miles in excess of that in the previous year. In present circumstances, however, financial results are overshadowed by the vital role being played by the railways in the war effort of the Dominion, a matter to which reference is made at page 289.

Two American Derailments

During the decade of increasing railway speed which followed the introduction of the German diesel-electric streamline trains in 1932, it has been difficult to claim that acceleration in itself has increased the danger of railway travel. In this country, none of the streamline trains was involved in any serious mishap, nor were any other trains the start-to-stop speeds of which reached or passed the mile-a-minute level. The disasters which befell two of the leading American railways last week are notable in that they involved the fastest and most famous trains on each of the routes concerned. The Congressional of the Pennsylvania Railroad (the derailment of which we recorded last week), is electrically hauled throughout the 225 miles between Washington and New York; it is allowed only 3 hr. 35 min. for the distance, four stops included, and over the section on which it was derailed—between North Philadelphia and Newark—is scheduled to cover a distance of 76 miles in 64 min., which entails running speeds of over 80 m.p.h. The Twentieth Century Limited of the New York Central System, the derailment of which is recorded on page 295, was running to a decelerated schedule of 17 hr. for the 958-mile run from Chicago to New York, stops included. Preliminary reports attribute the Pennsylvania accident to a broken axle, and that of the New York Central to a boiler explosion.

Salt-treated Timber on American Railways

The use of Wolman salts, chromated zinc chloride, and Celcure, for the preservative treatment of above-ground timber is steadily increasing in popularity in the United States. The extension of its use is, moreover, particularly rapid at the present time due to the scarcity of hardwoods for railway building purposes. Soft sapwood treated with one of these salts has been found to give service life equal to, or greater than, that of durable species of heartwood. A further valuable asset in connection with this treatment of timber for such buildings as engine sheds, is its fire-resisting qualities and its prevention of corrosive action by smoke and fumes. The cleanliness of these salts and the fact that paint can be applied over them, if desired, also add to their advantages. On some railways in the States, notably the Chesapeake & Ohio, practically all timber used for permanent building repairs and construction is "salt treated." Sashes and other frameworks are treated after fabrication and, until recently, even after glazing. As a test, a single-line tunnel has been lined with salt-treated timber, but this material is unsuitable where there is contact with the ground. To give some idea of the increase in its use, it may be noted that the C. & O. Railway used in 1937 less than one-fifth of the quantity used in 1942.

Detecting Rail-Web Failures

A difficult rail defect to discover by ordinary visual means is the horizontal crack at the junction of head and web, which occurs frequently in the fishing, and sometimes along other parts.

In the United States this class of failure, known in its early stages as a fillet crack, and later, if it follows its usual course of development, as a head-web separation, is causing much concern, especially on lines laid with rail section lighter than 112 lb. The Missouri Pacific Railroad is using a rail detector designed to locate fillet cracks. This is a frame mounted on double-flange wheels which run along the rail, and holding a mirror set at an angle which reflects the radius between the head and the web and the adjacent area of the rail surface, and makes it clearly visible to an observer walking alongside. The observation is always made on the gauge side of the rail, where, experience teaches, fillet cracks usually start, and gradually work through to the other. Normally the presence of the defect is disclosed by a characteristic rust streak along the fillet; if a rail is thus under suspicion, the surface round the streak is cleaned and a further examination made with a magnifying mirror. If the suspicion is confirmed, the rail is painted in white along the rust streak. If the rust shows later through the paint, it is known that a head-web separation is present. With the rail detector, the rate of inspection is a mile an hour.

Ministry of Supply Locomotives for Africa

A number of general utility locomotives for service in Africa has been built to the requirements of the Ministry of Supply, and as described in detail on p. 284. The problems confronting those responsible for the design were unusual, as the intention was to use the locomotives in territories as widely spaced as Gold Coast and Rhodesia. Apart from axle-loading limitations, considerations of the type of operating personnel available, uncertainty of fuel supply, and lack of uniformity among the various types of buffers and drawgear in use, all contributed to the problems to be solved. In the result, a powerful and robust Pacific locomotive was produced; the simplicity of the design should make the engine suitable for all grades of operating staff, and the fuel question was solved by making the engines normally oil-burners, with particularly easy means for conversion to coal burning. The adhesive weight was kept down to 34½ tons, and in general proportions and details the design follows Sudan Railways practice. The frames are an interesting combination of steel slabs for the main portion, with plate frames attached for the trailing wheels under the cab; the drawgear problem was met by providing different batches of engines with different types, according to the territory to which they were to be sent. It will be noticed that a very complete equipment of tools is provided.

Changing Locomotives at Frontiers

THE more favourably recent trend of the war situation is giving an added fillip to the activities of those who would "plan" a new world on idealistic lines, often without due regard to the value of the accumulated experience of past years. So far as concerns railway development in post-war Europe, some of these rather impracticable views were discussed in an editorial article entitled "International Control of European Railways," which was published in our issue dated April 16 & 23, page 399. From the railway viewpoint, it can only be regarded as harmful to the study of the problems of post-war railway communications in Europe, when proposed schemes are based on misconceptions of technical aspects of railway operation. One such statement that has gained currency recently has been to the effect that there is no scientific or economic reason why locomotive crews, and third-class passengers, should change at political frontiers. The fact is that there are sound reasons for the change of locomotives and crews, and the change of third-class passengers is by no means confined to frontier stations. Crews must change at the frontier, not because there is a political barrier of sorts, but because the trains usually pass from one language territory into another, and it is essential for efficient and safe operation that the train crews and the line staff are bound by the same rules and regulations and speak the same language. Changes of locomotives occur generally at large junctions where there are sheds, and frontier stations are an ideal changing place, because the train must stop there for other purposes, among which may be included the changing of the crews of different nationality and language. Indeed, where in practice this motive does not exist, locomotives do run through, as between Paris and Brussels, Paris and Liège, Strasbourg and Luxembourg, without change at the frontier. It is also untrue that third-class passengers change at frontiers. Where there is a demand, third-class through carriages are run in international continental trains. In pre-war days, necessary changes of third-class passengers were indeed most frequent in internal traffic on the German railways, and this on a unified system.

Railway Mission for Argentina

IN our last issue we recorded that, after an interchange of directors between the British-owned Argentine broad-gauge railways, Mr. J. M. Eddy, the Chairman of the Buenos Ayres Great Southern and Buenos Ayres Western Railways, and a methods of operation, but also has had considerable experience Drayton, a director of the Buenos Ayres & Pacific, Buenos Ayres Great Southern, and Central Argentine, and Lord. Forbes, a director of the Central Argentine, Buenos Ayres & Pacific and the Buenos Ayres Western, were to constitute a mission to go to Argentina under the chairmanship of Mr. J. M. Eddy. As was to be expected, the publication of these resolutions has given rise to conjectures as to the possible results of such a mission to Argentina in prevailing circumstances.

Mr. J. M. Eddy, for many years, was the General Manager of the Buenos Ayres Great Southern Railway and has not only a complete grasp of the organisation of the lines and their methods of operation, but also has had considerable experience of the political aspects of their problems. Lord Forbes had hitherto limited his connection with railways to the Central Argentine, of which his late father was the Chairman. He is, perhaps, better known as a partner in the firm of Balfour, Williamson & Company, whose interests lie on the West Coast of South America. He is also a director of oil companies in Peru and Ecuador and was a member of the Willingdon Mission, which visited Argentina at the behest of the British Government. Mr. H. C. Drayton is chiefly concerned with the investment aspect of foreign railway enterprise. He is a director of numerous trust companies and transport undertakings.

The past year has been an unhappy one for the privately-owned Argentine lines. Their applications for increased rates and charges have met with a measure of support from the Government, but subject to the condition that the increased revenues should be devoted chiefly to the improvement of staff conditions of service and the strengthening of the railway pension fund. Little or no benefit has been allowed to reach the shareholders. The companies' repeated requests for a better rate of exchange have been rejected and no hope is entertained of more favourable treatment later.

No figures of working results are issued by the companies between the publication of annual reports and accounts, but such brief statements as have reached the press from time to time from authoritative sources have intimated that the accounts for the financial year ended June 30 last, when published in the autumn, will reveal that, although the gross receipts increased, a large proportion of the additional income was swallowed up in higher working costs. On the other hand, the recent publication in Buenos Aires of figures relating to all the railways for 1941-42 has revealed that the State Railways, which are nearly all metre gauge, made a satisfactory showing, as compared with the broad-gauge lines, and the fact that the State Railways did not join the privately-owned lines in their request for higher rates has encouraged the belief that the interests of the country would be as well served were the ownership of the lines repatriated. Furthermore, the fact is not to be overlooked that Great Britain owes Argentina a considerable sum of money in respect of meat and other produce shipped to England during the war, but not paid for. At the end of last year, the sterling balance in London in favour of Argentina was about £22,000,000 and has since increased. The Central Bank of Argentina has repeatedly urged the utilisation of part of this balance for the repatriation of foreign indebtedness, of which the largest single item is the broad-gauge railway system in British ownership.

On June 4 last, a *coup d'état* overthrew the Castillo Government and a military oligarchy has since governed the country. One of the first acts of the new régime was to dissolve Congress, which will be reconstituted when the time is considered opportune to hold general elections. In the meantime, General Pedro Ramirez, the Minister of War in the Castillo Cabinet, has become the *de facto* President of the Nation. So far the policy of the Government seems to be to make Argentina more Argentine. State controls have been extended and recently the supervision over Argentine shipping has been considerably increased. All ships flying the Argentine flag are now classified as public utilities and are subject to regulations fixing their ports of call, types of cargo, and shipping rates. Similarly, the ports of the country which are in the hands of private enterprise are to come under stricter control. The resolution as to shipping is not likely to affect the railways, but the supervision of ports may well concern some of them, particularly the Buenos Ayres Great Southern and Central Argentine, which have considerable investments in the ports of Bahía Blanca, La Plata, Rosario, and Villa Constitución, as well as the port of Buenos Aires, where the Southern Dock Company is a subsidiary undertaking of the Buenos Ayres Great Southern Railway. On the whole, the new

Government seems to be rather more nationalistic than its predecessor and, so far, there has been no indication that it is the policy to encourage foreign enterprise.

In the light of the foregoing, coupled with the knowledge that important concessions under the Mitre Law will lapse in three years' time, it is sufficiently clear that weighty problems will await the attention of the mission on arrival in Buenos Aires. More than usual interest will attach to the annual meetings to be held towards the end of the year, when shareholders will listen to the chairmen's statements in the hope of gaining a clearer idea of the position, present and prospective, of their investments, particularly in view of the important change in the political situation in Argentina which has supervened since the meetings held nearly a year ago.

....

The Method of Approach to Transport Planning

THE TIMES of August 24 reported that a ten-point policy for the road transport industry had been outlined by Major H. E. Crawford, President of Associated Road Operators. The first point was: "Road transport to be efficient must be left free and untrammelled to serve the manufacturer and trader." This sweeping demand is presumably not to be taken literally as the last three points in the programme were: (8) to make agreements with the other inland transport agencies to stabilise rates and conditions of carriage; (9) to make arrangements with other inland transport agencies to ensure fair competition among them; and (10) to co-operate with the other inland-transport agencies, railways, canals, coastal shipping, and air, in making arrangements for the efficient transport of goods to any point within the United Kingdom and the British Empire.

These propositions in effect involve the "planning" of transport. Major Crawford apparently said that they must be translated into practice, and also spoke of informing the public of what the industry had in mind. It is to be feared that the public will not be enlightened by the announcement of a new and somewhat vague set of proposals without any reference to steps already taken with a view to remedying the unsatisfactory situation which existed before the war. The way to make progress is surely to begin with the findings of the official body constituted to investigate transport questions. The Transport Advisory Council is thoroughly representative of all the interests concerned and the present system of regulating road carriers of both passengers and freight was based mainly on recommendations made in its historic reports.

In April, 1939, the council submitted a further exhaustive report to the Ministry of Transport on the proposals advocated by the railway companies in the "square deal" campaign. The object of that wordy war was to free the railways from obligations and restrictions which, they urged, handicapped them in competing for business against other carriers who had a comparatively free hand. Perhaps the time is appropriate for referring to the conclusions reached by the council, as its work is bound to endure though it may be overlooked during the stress of war.

In conducting its inquiry the council wisely left the transport and trading organisations to meet round the table and thrash out their differences. A surprisingly large measure of agreement was attained. Of special note was an understanding reached between the railway companies and a liaison committee representative of holders of "A" and "B" licences belonging to all the national road transport organisations. The kernel of this agreement is free consultation about difficulties with the object of framing constructive measures to put things on a better footing. Happily, one definite step forward was taken at once. A Road & Rail Central Conference, with regional committees, has been set up to compile "a correlated system of rates" and is known to be hard at work devising a fresh rates structure. The whole future of the relations between road and rail may turn on the successful performance of this task. The conference deserves the goodwill and sympathetic assistance of providers and users of transport alike. Should it fail to settle a revised code of conveyance conditions and charges, the Government will assuredly have to establish an official committee to cut the Gordian knot as soon as the present state of emergency ends.

The report of the Transport Advisory Council was judicial in form and, with some modifications, gave its blessing to the agreements submitted by the interested parties. The Government in turn accepted the council's recommendations in principle, but war broke out before a Bill could be introduced into Parliament. The enforced delay may not in the long run be a misfortune. When the time comes for acting on the council's report, the calculating machines of the Road & Rail Central Conference may have ground out satisfactory results.

The chances are that, when peace returns, the state of affairs in the transport world will not be unlike the situation which arose in 1918-1919, though it will be more complicated. Once again the Government will have to decide whether the control of railways is to cease and the lines are to revert to private ownership. Whatever the decision may be, this war has shown the imperative need for preserving a strong railway system in the national interests. It follows that the railways, however they are managed, must have a reasonably adequate net revenue. New war traffics which have caused excessive wear and tear to permanent way, structures, and rolling stock, will cease as soon as an armistice is declared, and many commercial traffics may not develop to their pre-war level. During the period of transition from war to peace conditions the railways will have to meet inflated costs for wages and materials. In theory this additional expenditure should be offset by an increase in passenger fares and freight rates, but any suggestion of raising conveyance charges is sure to be strongly opposed and a substantial advance might defeat its aim by driving traffic away.

In 1919 a somewhat similar state of circumstances led to the appointment of the first Minister of Transport whose main task was to formulate a policy for carrying on the railways. The upshot of lengthy negotiations conducted by Sir Eric Geddes was the Railways Act, 1921, and the founding of the four main-line companies which we know today. For twenty years these companies have furnished efficient service to the public in spite of many obstacles, financial and otherwise. Their future is now a matter for much speculation. Many committees are busy on plans for reorganising the country's transport facilities. Let us hope that all these planners will study the history of transport development carefully and will not attempt to formulate schemes which ignore the trend of transport regulation since 1919. No free-lance investigation will help matters forward by reopening questions which have been settled after calm examination in the course of previous enquiries.

An example of the tendency to ignore realities came to light recently and will illustrate our argument. In a certain quarter there has been some talk about regrouping railways and setting up a separate company for the whole of Scotland. A reference to Mr. W. E. Sinnott's book on "Railway Amalgamation in Great Britain" will show that the original proposal for "grouping" included a separate Scottish system. Further analysis proved that "end-on" combinations of the east and west coast companies in England and Scotland would have weighty advantages on the financial side as well as from an operating point of view. The L.N.E.R. and L.M.S.R. companies were accordingly created and have served the country North of the Border more effectively than a purely Scottish concern, with slender resources, could have done. A study of Mr. Sinnott's pages in the light of subsequent experience demonstrates that the only question worth debating is whether amalgamation has now prepared the way for complete unification.

This article has not been written to express opinions about railway unification or any other specific transport plan. Its purpose is to urge the need for the study of tendencies and development over the last quarter of a century, together with an examination of such financial and statistical statements as are available, before new programmes are launched and to emphasise that new plans are most likely to be useful if they link up with established arrangements. Steady improvement and justification for each change in transport control should be our watchwords.

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Sugar Beet Traffic

THE next few weeks will see the commencement of the 1943-44 sugar beet season, which will add a considerable tonnage to the enormous freight traffic already being handled by the railways. The British railways have interested themselves in the sugar beet industry from its inception and during the past 30 years they have done much to encourage the cultivation of this valuable product. Their assistance has been of particular value in connection with the selection of sites for sugar beet factories, which now number nearly twenty. During the 1942-43 season approximately 2,000,000 tons of sugar beet were dealt with by the railways and consideration of this figure in terms of wagon user, engine power, and line occupation will afford some idea of the magnitude of the transport problem, particularly under present conditions.

The principal aim is to keep the harvesting of the crops in line with the capacity of the factories to deal with the beet. There are limits to the storage accommodation available at the factories and unregulated forwardings would result in the railways having to hold traffic in marshalling yards or refuge sidings, a state of affairs which is undesirable at any time and particularly so in present circumstances. The position is met by the issue of permits to the farmers authorising them to forward certain

quantities of beet weekly to specified factories and close contact is maintained between the railway companies and the factory authorities to ensure the steady flow of sufficient traffic to keep the factories fully employed without causing congestion in railway yards and sidings. The railways are also responsible for the collection of much of the traffic from the farms and the provision of the necessary road transport is another feature requiring most careful arrangement.

....

Railway Staff Problems

THE insistent demands of the Minister of Labour & National Service for more and more manpower for the fighting services and munitions production have inevitably caused many staff problems to arise in industry generally. In some cases it has been possible largely to overcome these difficulties by a process of rationalisation, which has enabled the manufacture of certain commodities to be concentrated in the larger factories, thus economising in manpower and at the same time making smaller factories available for war purposes. Further, the war has naturally restricted both the availability of raw materials and the markets for many manufactured articles, with a resultant decrease in labour requirements. On the other hand, certain industries which are vital to the national war effort have been required to cope with demands far in excess of anything previously contemplated and it is in such cases that staff problems are acute.

The British railways afford an outstanding example of an essential industry which has had to bear the full brunt of unprecedented demands on its services and at the same time suffer the loss of a large proportion of experienced staff. In 1938 the staff of the British railways numbered 580,000 and, of these, about 114,000 railwaymen are now members of H.M. Forces or Civil Defence services. Many were reservists who were recalled to the Colours in the early days of the war; others volunteered to the limit of the railway companies' ability to spare them, and the remainder have been taken from the railways under the National Service Acts. Included in their number are men with many years of railway experience, and it is gratifying to know that, even though their services are denied to the hard-pressed railways at home, they are carrying on the fine traditions of British transport in distant lands, in many cases with the aid of locomotives and equipment supplied from Great Britain. Amongst army units largely composed of trained personnel drawn from the railways are the Docks Groups, Movement Control Units, and the Railway Construction Companies of the Royal Engineers.

It will be realised that the loss of such a large number of experienced staff has imposed a heavy burden on the shoulders of the remaining pre-war personnel and particularly the supervisory staff. The adult staff released to join H.M. Forces has had to be made good by the recruitment of women and juniors, and by the employment of such other labour as can be made available by the Labour Exchanges. Before the war the railways employed 26,000 women, mainly in the clerical grades and, to a lesser degree, as carriage cleaners, waiting room attendants, and hotel staff. Now over 110,000 women are employed on all kinds of manual work at passenger and goods stations, docks, engine sheds, on the permanent way, in signal boxes, on trains, and in railway workshops on such skilled work as turning, welding, and concrete mixing. These women are doing magnificent work and the nation owes them a debt of gratitude which it is to be hoped will not soon be forgotten. They would be the first to acknowledge, however, that they cannot hope to compensate entirely for the loss of a large number of men with a background of railway experience built up over many years.

The increased freight traffic now being handled by the British railways has necessitated the creation of thousands of additional posts in the operating grades, namely, footplate staff, goods guards, shunters, and signalmen. In these grades the shortage of male staff has been most keenly felt and great difficulty is continually being experienced in meeting the requirements. The position is being met, as far as possible, by the transfer of men from non-operating grades, but this is largely dependent on the recruitment of suitable women to replace the transferred staff. So far as footplate staff are concerned, the increased requirements have necessitated the quick promotion of young cleaners to the grade of firemen; the vacancies in the lower grades have been filled by women and juniors.

At most of the larger stations the booking and parcels offices are largely staffed by women, and at hundreds of the smaller stations up and down the country the stationmaster is the only person with railway clerical experience left to guide and direct the commercial side of the business. There have been countless developments in rural districts which have resulted in the traffic of many country stations increasing to many times the pre-war

level. In such circumstances it will be appreciated readily that the lot of the country stationmaster, endeavouring to cope to the best of his ability with vastly increased business, aided by only a small number of inexperienced, and frequently very youthful, female clerks, is by no means easy. Accounts have still to be compiled currently, personal attention has to be given to freight-train working, the expeditious unloading of wagons has to be watched, and the manifold requirements of the public have to be dealt with promptly. Stationmasters at the larger stations, and goods agents generally, are confronted daily with unique and, may we say, stimulating, problems arising from the recruitment and training of women and inexperienced staff. The fact that, despite the unparalleled traffics now passing, air raid damage, and the restrictive effect of operating under blackout conditions, the British railways have successfully met every demand made on them throughout four years of war, speaks volumes for the initiative, resourcefulness, dogged determination, and loyalty of the railway supervisory staff generally.

....

Conserving Transport Resources

WITHIN recent months many regulations have been introduced in the U.S.A., with the object of conserving transport resources, and directing them exclusively into essential channels, on lines which are broadly similar to those that had previously proved successful in this country. From recent editorial comment in our American contemporary, the *Railway Age*, however, it appears that care might yet be taken to segregate the respective functions of rail and road haulage. Under the heading "Why Wear Out Trucks in Unnecessary Long Hauls?" our contemporary observes that it is to the national interest—as well as that of the industrial community and the railways—that motor lorry transport be preserved for those tasks which lorries alone can do efficiently. It is contended that, at present, despite the severe limitation on the supply of motor transport arising from the scarcity of tyres and petrol, as well as of the vehicles themselves, the use of motor lorries for long-haul transport persists in large volume. From time to time the Office of Defense Transportation has been reported to be intending to prohibit long hauls by road transport where railways are able to provide an adequate substitute, but so far no such step has been taken. Meanwhile, many lorries continue to use fuel and tyres on lengthy routes, which at best may be regarded as a convenience rather than a necessity, and the future availability of road transport for essential services is being imperilled thereby.

Along the Eastern seaboard of the U.S.A., lorry service for local deliveries has already been curtailed severely, and it is anomalous that road transport continues to handle long-distance traffic for which the railways have ample facilities. As a war measure for the conservation of transport, the American railways have been prohibited from engaging in short-haul transport without special permission, and the *Railway Age* remarks that this is a just ruling as, in most cases, railways cannot serve such traffic as efficiently as motor lorries. It is therefore inequitable, as well as inexpedient, that no corresponding prohibition has restricted the use of lorries for long hauls. It is contended that the reason is not one of true economy, but because adherence to a competitive rate structure which does not take into account the comparative economy of the two methods of transport makes these long hauls lucrative to road transport operators who, not unnaturally, are loath to forego them. It seems impracticable, in present circumstances, to undertake the complex process of changing the rate structure, and apparently equity might best be secured by prohibition legislation. With the enormous increase in the volume of traffic the American railways can scarcely be accused of a desire to secure additional traffic from the roads on purely commercial grounds. Already available railway rolling stock is insufficient for all non-essential traffic offering.

Some indication that functional efficiency rather than essential commercial considerations are the primary objective is given by a consideration of the following statements, quoted in the *Railway Age*, on rail and road equipment economy for typical hauls of 1,000 miles and 150 miles respectively. On the 1,000-mile haul, a lorry will make a round-trip in 7 days; on the 150-mile haul it will make a round-trip in 1 day. With 10-ton capacity and a 75 per cent. load factor, the 1,000-mile lorry will transport 15 tons to destination in a week and on the 150-mile haul, 105 tons. On the 1,000-mile haul, a box car will require two weeks for the round-trip, and 8 days for the 150-mile trip. With a 30-ton average and a 75 per cent. load factor, the box car will haul 50 per cent. more in a given period of time than a 10-ton lorry on the 1,000-mile haul—but it will provide service to destination on the shorter haul for only one-third as much as the lorry.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Crewe Works Centenary

66, Eton Rise,
Haverstock Hill, N.W.2. September 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The article on Crewe is very interesting. There is however rather a bad slip to which I think your attention should be drawn. It is stated that amongst the famous engines built at Crewe was the *Royal Scot*, which of course is not the case. This engine and her 49 sisters was built by the North British Locomotive Company. Most, if not all, at the old Dübs works, Queens Park. The other 20 were built at Derby.

Yours sincerely,

E. C. FOULTNEY

[The *Royal Scot* which was sent to America was an L.M.S.R.-built engine.—ED., R.G.]

St. Pancras and Broad Street Service

60a, Green Lane, Northwood,
Middlesex. August 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—From Airey's Junction diagrams I see that in 1898 St. Pancras could have been reached from the North London line by what was called the North London incline. This left the North London about 18 chains west of Maiden Lane Passenger Station, at a point called "St. Pancras Junction (Mid. & N.L.R.)", and ran down to the Midland main line to the "North London Incline Junction," 50 chains from St. Pancras Station.

A train coming from Broad Street would have been obliged to reverse in order to proceed down the North London Incline. Surely no regular passenger service was ever operated?

Yours faithfully,

REGINALD B. FELLOWS

Coaling Plants

Camosan, Chorleywood,
Rickmansworth, Herts.

September 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As the writer of your "Coaling Plants" series of articles I must thank Mr. Lindley for his appreciative remarks in his letter of your issue of August 27. I would have hoped to have seen a reply to the points he raises from some officer of the Locomotive Running or Traffic Operating Department as these points lie rather within the domain of these Departments than that of design and construction.

The adoption of coaling plants was one of a comprehensive series of steps taken with a view to speeding up and generally improving the servicing and operating of locomotives and so working them to better advantage in the direction of higher mileage per locomotive and consequently of reducing the necessary complement of engines while maintaining efficient operation. To the extent to which this was effected—and it was the writer believes very fully effected—so the cost of the schemes was justified.

As regards type and method of operation of plant it is difficult to see what advantage can be claimed for bringing the coal to the locomotive instead of the reverse seeing that the locomotive exists for the purpose of being mobile. Coaling is in any case one of the servicing duties of the running sheds and that being so, the proper position of the coaling plants would appear to be where they are in the vicinity of the sheds on the roads leading in and out thereof.

It is a modern development that provision for topping up tenders to their full coal capacity just prior to the engine attaching to the train and setting out is made in the form of the small skip hoist plants which are the subject of the first illustration of the coaling plant article but for all the coal to be taken in this way and still more for it to be put on while the engine is actually attached to the train would require the setting aside of extensive storage and shunting siding accommodation just where space is specially valuable. Tracks adjacent to main-line running, and especially platform tracks, could not in any case be kept clear for the operation of the suggested crane and container wagons and it would besides be decidedly objectionable for locomotive servicing and traffic operations to be thus commingled. Taking water is a speedier and easier process but if it could be avoided it would be.

Of course a container system might be used instead of coaling plants as described in the vicinity of the sheds, but in that case there would have to be substituted for the latter a set of sidings for the storage and movement of a large number of wagons and the cost of this would not be negligible.

The container system is used extensively in some cases on the Continent for cargo coal and it is not unknown on British railways where container wagons have been used for ships' bunker coal; these however have been superseded wherever possible and there is generally speaking an objection to special one-purpose wagons especially where these can only be used for traffic in one direction.

Yours faithfully,

J. DALZIEL

Herapath's Railway Magazine

London, W.C.1.

September 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The association of John Herapath with the famous railway journal that afterwards bore his name is considerably older than the appearance of his name in any form on the title of the journal.

As *The Railway Magazine*, this pioneer railway periodical was launched at the end of April, 1835, and its first number bore the date May 1, 1835. Ten monthly issues were produced by the original proprietors, and in February, 1836, the ownership passed to John Herapath. He began No. 1 new series in March, 1836, also as a monthly octavo magazine, under the slightly amplified title of *The Railway Magazine and Annals of Science*. Volume 1 new series also contained ten numbers, finishing with that for December, 1836, which carried with it a title page, contents, and index, that also included a Dedication to the Duke of Wellington, signed by John Herapath on November 28, 1836, as Editor and Proprietor.

Your correspondent, Mr. S. Mason, Secretary of the Irish Railway Clearing House, is quite correct in saying that, when the journal was converted into a weekly quarto paper on August 17, 1839 (under the slightly amended title of *The Railway Magazine & Commercial Journal*), it did not bear Herapath's name in any form; in fact, the issue which he quotes, namely, March 28, 1840, was the first to bear the words "by John Herapath."

Shortly afterwards, on January 2, 1841, the title was changed to *Herapath's Railway Magazine, Commercial Journal, & Scientific Review*. This title was curtailed exactly two years later (with the issue of January 5, 1843) to *Herapath's Railway & Commercial Journal*, which was its full official title for more than half a century, although it was usually called *Herapath's Railway Journal*.

Actually, the shortened form of *Herapath's Railway Journal* was used as a title block for the first time on January 5, 1894. It was absorbed by *The Railway Times* (established in 1837) on December 26, 1903, and that journal was merged with *The Railway Gazette* on April 3, 1914.

One hundred years ago, the period of red-blooded journalism which permitted of libellous assaults by one editor upon a rival, produced in the railway sphere vituperative articles which leave no doubt that John Herapath was the Editor, Proprietor, and guiding force of the oldest constituent of *The Railway Gazette*.

Yours faithfully,

CHARLES E. LEE

BOILER EXPLOSIONS IN THE U.S.A.—During the year ended June 30, 1942, 13 explosions of locomotive boilers occurred in the United States, or two more than in the previous year; all were caused by the overheating of firebox crown-sheets due to low water. These accidents resulted in the deaths of 23, and in serious injuries to 18 persons, as compared with 11 and 29 respectively in the previous year. Many American locomotives now are being fitted with protective devices in addition to fusible plugs, such as low-water alarms and syphons, and these doubtless have helped in preventing similar casualties. Commenting on the annual report of the Director of the Bureau of Locomotive Inspections, our contemporary, the *Railway Mechanical Engineer*, asks why more specific rules should not be formulated by the railways for the guidance of engineers who realise that the water level has become dangerously low. When the water has fallen below gauge-glass level, and cannot be restored, the men have probably no more than 4 to 5 min. in which to act, if the boiler is working at full capacity (or up to 10 min. at half capacity). Ingrained reluctance to drop the fire, which saddles the enginemen with responsibility for a locomotive failure, has cost not a few of them their lives.

The Scrap Heap

So far, nearly one hundred discharged soldiers have answered London Transport's appeal for conductors, porters, and booking clerks, and many of them are already in service. Some of those now in training are men who were at Dunkirk.

TWO PRINCES AT RAILWAY BRIDGE

Two princes officiated at important functions at Victoria Bridge, carrying the Canadian National Railways over the St. Lawrence River. For the original tubular bridge, designed by George Stephenson, the cornerstone was laid in July, 1853, and the last spike was driven by H.R.H. the Prince of Wales, afterwards King Edward VII, on August 25, 1860. Traffic outgrew the single-track bridge and Grand Trunk Railway engineers designed a double-track open span, which was opened in 1901 by H.R.H. the Duke of Cornwall & York, afterwards King George V.

THE 24-HOUR CLOCK

Several attempts have been made within recent years to obtain official approval for the 24-hour clock. The Government attitude has always been that there is no popular demand for this reform. A few years ago the B.B.C. used the 24-hour time system for a period in programmes and announcements in order to familiarise the general public with it. Its adoption by the Post Office and the railways would be a great convenience and would avoid the risk of confusion between a.m. and p.m. times. Millions of men and women have become familiar with the 24-hour system during the war. This may help to stimulate a public demand after the war for its general adoption.—*Mr. H. Spencer Jones, Astronomer Royal, in a letter to "The Times."*

BRAVE NEW WORLD?

Within twenty years of the end of this war, said the Parliamentary Secretary to the Ministry of War Transport in opening a "safety training exhibition" in London, there would be four times as many motor-vehicles on our British roads as there were in 1939. "Somebody," added Mr. Noel-Baker, "is going to succeed where Hitler failed and will make a people's car." They may also succeed in another direction where Hitler failed, and that might be in a war of attrition that would ultimately wear down the human resources of this latterly indomitable isle. There were 8,272 road deaths in Great Britain in 1939, 8,609 in 1940, and 9,161 in 1941, by which time the number of cars on the highway was beginning to be effectively reduced. But the deaths have hardly begun to show a proportionate decrease and for every death there are at least a score of injuries. The figures, as is well known, are formidable in the extreme, and if Mr. Noel-Baker's prediction should be justified and the roads of twenty years hence should carry four times as many vehicles as they did in 1939 there will be not only a vastly increased burden of discomfort (which was common enough before the outbreak of war) but also a most sinister rise in casualties. Our one hope is in those schemes of "safety training" which were also outlined yesterday. Without some real dividend from them the proposed people's car will be nothing more than a national disaster.—*From "The Manchester Guardian."*

"NON-STOP" BUSES

In his letter in *The Times* Captain Andrew Reid complains of ill-behaviour on the part of London busmen, principally on the score of failing to stop when hailed. The board does not, of course, condone such behaviour and is always willing to investigate and deal with any incident when specific details are supplied. Another feature of the matter is worthy of mention. The board is now engaged upon a complete review of stopping-places in their area. Observation shows that, despite considerable publicity, the public frequently does not realise that a one-time "fixed" stopping-post has been altered to a "request" stop, where it is necessary for them to hail the bus or, if they are passengers in the bus, to ring the bell in good time. Unless the driver is so warned, he will, quite rightly, presume that he is not required to stop.—*Mr. F. Scothorne, Public Relations Officer, London Passenger Transport Board, in a letter to "The Times."*

MEDIAEVAL GERMANY

Mr. Howard Smith in his book, "Last Train From Berlin," records that "in the window of the American Express Company in Berlin, which had been closed, the employees—Germans all—took a last bitter crack on the Nazis in making them lose decent jobs by sticking up a poster saying 'Visit Mediaeval Germany'."

The American Express Company's employees seem to have followed the train of thought which was given in *The Railway Gazette* of November 18, 1938, when the following paragraph appeared:

"The inscription underneath a pictorial poster of the Reichsbahn exhibited at a number of English railway stations reads:—

'Visit Mediaeval Germany.'

Nothing like being candid!"

The poster, which had been reproduced in our issue of December 2, 1938, is given hereunder:—



Germany's Unconscious Humour
Poster exhibited by the German State Railways at a number of British railway stations before the war



"Let's all crowd round the door—we may be able to keep this compartment to ourselves"
(Reproduced by permission of the proprietors of "Punch")

STAMPS AND BUS FARES

A recently published advertisement, issued by the British Omnibus Companies' Public Relations Committee, said: "In 1914 we had the penny post and the penny bus fare. In 1943 we still have the penny bus fare, but gone, possibly for ever, is the penny post. Is it not significant that road passenger transport, so largely created and fostered by privately subscribed money, has succeeded where bureaucracy has failed?"

Now this suggests that the only reason the penny post has gone up to 2½d. is inefficient working which has increased operating costs; whereas it is common knowledge that in fact the increase is primarily due to the use of the postage-stamp as a tax-collecting medium. What would have happened to the bus companies' argument if the Chancellor had chosen bus tickets (as he has chosen theatre tickets) as a revenue-gatherer as well as, or instead of, the postage stamp?

I am not a civil servant, but I have many contacts with civil servants; and though I have suffered as much as any man from their occasional mistakes I know that it is nonsense to say, with the evidence of our national organisation for war before us, that "bureaucracy" has failed. Did the Post Office fail to deliver the bus companies' mail and to put through their telephone calls in the height of the worst air raids? I have seen exchange girls sitting calmly at their switchboards with bombs falling all round, and mail vans being driven at night through blazing streets, and postwomen picking their way over rubble the next morning—all so that you and I (and the bus companies) could get our mail and conduct our business.—*Mr. Ian Mikardo in a letter to "The Manchester Guardian."*

TAILPIECE

(A mission of directors of British-owned railways in Argentina is visiting the country)

Unbeaten in the whole world's eyes
Is British railway enterprise,
Whose vision and achievement stand
Not solely in the Motherland.

Alone it schemed the broad-gauge lines
That serve twelve million Argentines
And, ever first to dare and do,
Paid for and built and ran them too.

The touch of Island glory lies
In British railway enterprise
That took the chance of gain or loss
Boldly beneath the Southern Cross.

E. C.

OVERSEAS RAILWAY AFFAIRS

(From our Correspondents)

UNITED STATES

Fares in Kentucky

The anomalies which often arise in the United States as a result of the liberty enjoyed by each state to make its own laws are well illustrated by the present position in Kentucky, where "coach" fares on through tickets to and from other states, are charged at the rate of 2 cents a mile plus 10 per cent. authorised by the Interstate Commerce Commission, whereas fares for tickets for travel entirely within the borders of Kansas are maintained compulsorily at 1.65 cents a mile by order of the Kentucky Railroad Commission. The latter has authorised an increase in intra-state first class fares to the interstate standard, but not in the "coach" fares; and the railways serving Kentucky are petitioning the I.C.C. for issue of an over-riding decision removing the anomaly.

A Head-on Collision

A collision which occurred at Sageeyah, Oklahoma, on the Missouri Pacific Railroad line connecting Coffeyville, Kansas, with Little Rock, Arkansas, on April 21, has been the subject of an inquiry by the Interstate Commerce Commission. The trains concerned were a passenger train of 6 carriages, Extra 6511 North, and a 12-wagon freight train, No. 191, which met head-on at 4.56 p.m., with the result that 3 employees were killed, and 119 passengers and 6 employees injured. There is no signalling on this single line, which is worked under timetable and train-order rules. On the day in question the crew of Extra 6511 North had been instructed to meet No. 191 at Sageeyah, where the passenger train had to wait clear of the points at the end of the passing loop until No. 191 had entered the latter, unless the freight train already had arrived. The crew of the passenger train received the "meet" order about 10 min. before passing Sageeyah, and shortly before the accident the flagman on the train duly sounded on the air-signal the prescribed meeting-point warning, which was acknowledged by the driver, who, however, did not stop at Sageeyah; the train-crew assumed that a train standing in the loop there must be No. 191, and took no steps to stop their own train. The train in the loop was not No. 191; and shortly afterwards the passenger train, travelling at 50 m.p.h., met the freight, travelling at 30 m.p.h., head-on. Both engines, the first two passenger coaches, and three wagons were demolished; and in the circumstances it is astonishing that the number of fatalities was not greater. As the average daily movement over the line is over 20 trains, the I.C.C. has recommended the railway to instal block signalling without delay.

New Station at Raleigh

The Seaboard Air Line Railway has opened an independent station at Raleigh, North Carolina, which has enabled the company to abandon the use of the awkwardly-placed Union Station in that town. The latter could only be reached by south-bound trains by backing in along a 1,400 ft. spur, and backing out was similarly required by northbound trains to reach Seaboard tracks; these operations wasted 15 min. on a through journey. Further, as Seaboard main-line passenger trains are often made up, in present conditions, to as many as 17 vehicles, which the Union Station spur cannot accommodate, the

outward ends of such trains have fouled running tracks outside the station. The new station, situated on Franklin Street, is of a through type, and is specially convenient as being close to the engine depot and turntable. The station building has an attractive exterior of colonial appearance; it includes two gabled porticos over the entrances (one for white, and the other for coloured, passengers, leading to separate waiting rooms, with the booking office and bookstall between), each supported by four fluted wooden columns. A decorative wooden cornice round the building, painted buff, as is the remainder of the woodwork, completes, with the stucco fronts to the gables, the cast-stone sills and other details, and the red brick, a particularly pleasing colour scheme. The trains are accommodated at two long covered platforms, one of which is an island. Considerable difficulty has been experienced in obtaining the materials needed, and no small ingenuity in devising substitutes has been exercised.

ARGENTINA

Government Control of Ports

By a Decree issued by the Argentine Government, the Ministry of Public Works, through the Department of Navigation & Ports, is authorised to exercise complete control over all the ports at present operating under private concessions. The functions and responsibilities of the Department of Navigation & Ports under the new regulations are defined as follows:

- (a) The strict fulfilment of the terms of the concessions, and of relevant laws.
- (b) Study of the tariffs and regulations applied in connection with the port services, and the forwarding of any recommendations on such matters to the Government.
- (c) The request from the concessionaires of all reports of a technical nature, and statistics, which may be required in connection with the operation of the ports.

The concessionaires are required to collaborate with the officials of the department in supplying them with all information and facilities necessary for the efficient discharge of their duties.

The following ports, at present operating under private concessions, come under the new regulations:—Arroyo Parejas, Bahia San Clemente, Bajada Grande, South Dock (Buenos Aires), Puerto Galván, Gualeguaychú, Ibicuy, Ingeniero White, Nandubai, Posadas, San Blas, San Nicolas, Santa Fé, Villa Constitución, J. F. Uriburu, and Zárate.

PORTUGAL

Beira Alta Railway

The annual report for 1942 of the Beira Alta Railway Company of Portugal, which operates a route-mileage of 253 km. (157 miles) on the 5 ft. 6 in. gauge, states that traffic continued to increase during the year as a consequence of war conditions. Total operating receipts amounted to 26,509,644 escudos, of which 5,666,267 escudos were from passenger traffic, 2,609,101 escudos from express goods and parcels, and 18,062,820 escudos from ordinary goods. Expenses totalled 20,252,106 escudos, of which 3,300,471 escudos were absorbed by operating costs, 10,186,805 escudos by stores and locomotive expenses, and 5,080,975 escudos by permanent-way expenses. From the balance of 6,257,438 escudos, 5,865,252 escudos were allocated to paying interest on bonds and certain

bridge renewals which had become urgent. Alterations have been made in the method of election to the board of management and to the finance committee: the Government has been asked to take part in the matter, as well as in deciding who should act on the board as representatives of the bondholders, of which there are some 23,500. (As recorded in *The Railway Gazette* of June 18, 85 per cent. of the debentures and ordinary stock of the company have been acquired by the Portuguese Government and Portuguese railways).

Portuguese Railways Company

The annual meeting of Companhia dos Caminhos de Ferro Portugueses was held last June. For some years the system has been worked at a loss, but in 1942 a profit of 33,730,447 escudos was realised, almost all of which was from the former company lines; only 42,620 escudos was from the old State system. This result was due not only to an increase in receipts, but also to an appreciable improvement in the co-efficient of operating ratio, which fell from 96.59 in 1941 to 81.91. All classes of traffic registered an improvement in receipts, although the number of train-miles fell by nearly 18 per cent.; nevertheless, nearly 933,000 more passengers were carried than in 1941. There was an increase in goods train-miles; as in the 1914-19 war, there is a tendency for the better class of goods traffic to increase, and the total goods traffic handled rose by 299,000 tonnes. After paying fixed charges, the profit was expended in the purchase of rolling stock and other equipment.

There has been a good deal of criticism of the company's affairs of recent years. Shareholders have been asking that they be allowed a reduction of 75 per cent. in the price of tickets as compensation for the absence of dividends. The management has been criticised also for not obtaining good stocks of coal when prices were better, to cover the war years. The management defended its position and stated that 38 new locomotives and 500 wagons were essential to cope with the increased goods traffic; it would have been impossible to obtain them had a dividend been distributed. Unfortunately, circumstances beyond the company's control had delayed certain improvements, such as the enlargement of the Sacavem marshalling yard and the introduction of electric traction on the Sintra and Vila Franca lines. Some merchants had complained of the difficulty in obtaining wagons in time; the new stock would help to remedy that position.

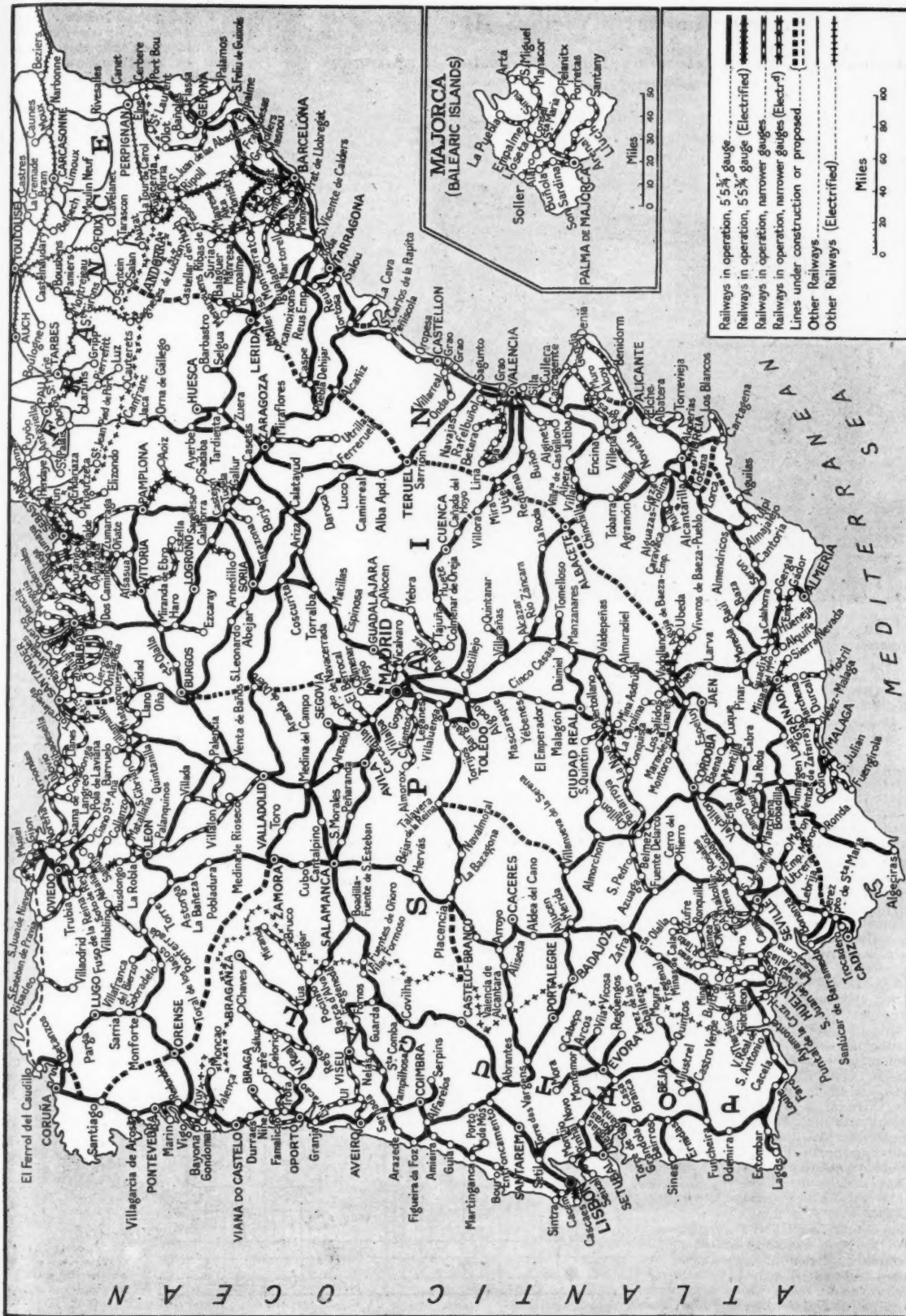
SPAIN

Cuatro Vientos-Carabanchel Extension

The short link line between Cuatro Vientos and Carabanchel was inaugurated on May 30. The new line, which is of broad gauge, is important in that it will give a direct connection between the permanent military encampment at Carabanchel and the National Railways broad-gauge system, with, later, a branch to the military hospital. Cuatro Vientos is on the Almorox line, 8 km. (5 miles) from Madrid.

Sierra Nevada Railway Extension

The scheme for prolonging the narrow-gauge Sierra Nevada Railway has been amplified and extended. It is proposed to carry the line, which starts from the city of Granada, on to Barranco de San Juan and Arroyo de Cuarné, with a funicular railway from the latter point to one near the summit of the mountain. It is calculated that with the proposed extension it will be possible to make the journey from Granada to the mountain in about 1½ hr.

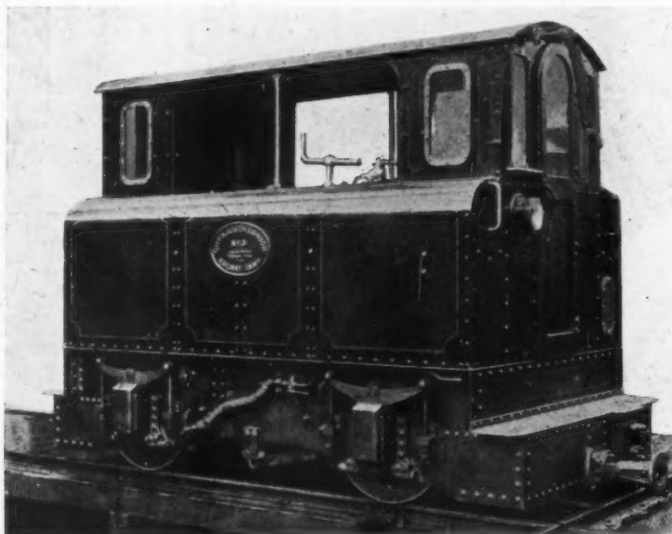


The railways of the Iberian Peninsula, consisting of Spain and Portugal: All the principal lines are of broad gauge, involving a break of gauge at the French frontier. Proposed railways, gauges, and electrified lengths are separately indicated

Electric Railway Traction—II*

Development of practical electric railways: substation equipment old and new

By C. E. Fairburn, M.A., Acting Chief Mechanical Engineer
& Electrical Engineer, L.M.S.R.



FROM 1885 onwards electric traction progressed by leaps and bounds. In 1890, the first electric tube railway in the world, the City & South London, was opened. Originally it had been intended to use cable haulage, but the progress of electrification caused this to be reconsidered and the line was electrified. By 1902 there were several electric lines operating heavy traffic and during trials held in 1904 in Germany a speed of 130 m.p.h. was reached by an electric vehicle. The illustration on this page shows one of the original locomotives employed on the City & South London line.

Consideration will now be given to modern equipment. As the subject under discussion is electric traction in this country, its present usage and possible future development, it is not proposed to deal with the alternating-current systems used in other countries. These systems are very interesting in many ways, but it is not possible to deal with them here. Also, means for the supply of power will be taken for granted and account will be taken only of the purely traction part of the system; as shown in the accompanying diagram, this comprises:—

- (1) Main switching and transforming stations where the power is received as three-phase alternating current, usually at high tension.
- (2) Secondary medium-tension alternating current distribution system.
- (3) Substations where the energy is converted to direct current.
- (4) The conductor system along the track.
- (5) The electric vehicles or locomotives.

As to the main switching stations and the secondary distribution system, the equipment needed depends to a large extent on the form in which energy is delivered to the traction system from the

grid or from a separately-owned generating station. In certain instances the supply may be at 132,000 volts, 66,000 volts, or 33,000 volts, making it necessary to transform it down to the secondary-distribution voltage, which does not normally exceed 33,000 volts.

From this central point or points the energy is taken by means of overhead conductors or cables, to the various substations on the line in which it is transformed to direct current at the voltage required by the vehicles.

At this point it should be said that in this country it has been determined by an Order in Parliament that for railway elec-

trification the supply to vehicles should be 1,500 volts direct current or a sub-multiple or multiple of that voltage, that is, 750 volts or 3,000 volts in special cases. Systems already in operation may continue to use their established voltage, however. Tram and trolleybus systems usually operate at about 650 volts.

In the substations of early electric-traction systems the three-phase alternating current was converted to direct current by means of machines known as rotary converters, and the voltage adopted was usually what is called low tension, that is, 500-700 volts. In the rotary converter, alternating current energy is supplied to the armature of the machine through slip rings and direct-current energy is taken out through a commutator. The direct-current voltage is in a fixed ratio to the alternating-current voltage and to get the required value transformers connected between the incoming supply and the converters are necessary. The transformer is a static device with two windings on an iron core. The input is fed into one winding and the output is taken from the other; its voltage depends on the ratio of the number of turns on the two coils.

For some years the rotary converter was the most satisfactory device for providing the direct-current supplies that were used in this country, namely, 600, 1,200, and 1,500 volts. It involves the use of rotating parts with bearings which have to be lubricated; brushes have to be used for the collection of current. Under certain conditions there is a risk of the machines being damaged so that with the older types of substation even now it is necessary to have a man permanently in attendance to supervise the normal running of the plant although his chief function is merely to stand by in case emergency conditions arise. It will readily be appreciated that this necessitates expenditure in labour for conditions that may occur only at very infrequent intervals. In consequence attempts were soon made to run rotary converter substations automatically or by remote control, that is, so that they could be started up and shut down by settings of a clock or at will from a distance, with suitable safeguards so that if trouble arose due to

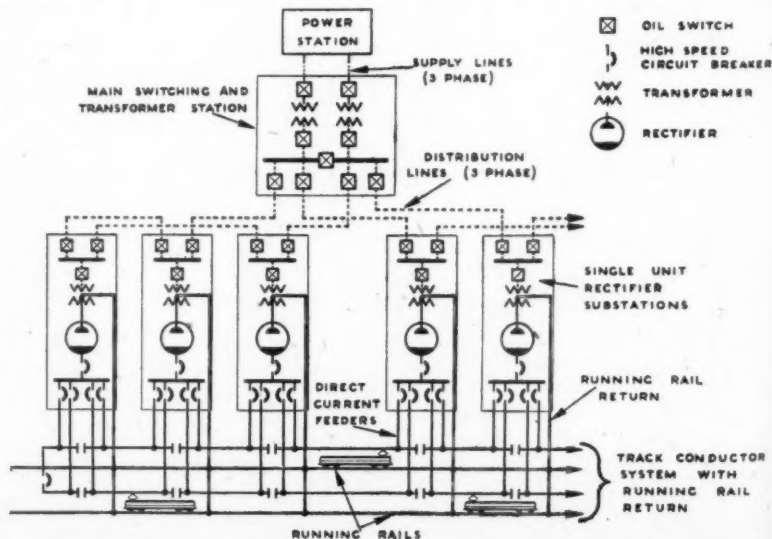


Diagram of equipment for supplying power to track conductor system

* Abstracts from a Faraday Lecture Part I as published in our issue of August 20

overloading, hot bearings, and so on, the machines would shut down automatically.

While the evolution of the non-attended rotary-converter substation was in progress the development of the mercury arc rectifier, based on hitherto unused principles, was taking place. The rectifier is a static device which operates in much the same way as the familiar radio valve; that is, if two bodies known as electrodes, one of which is heated, are placed in a vacuum or gas at low pressure, electrons can pass between them, but in

one direction only, thus converting an alternating current into direct current.

The rectifier is, of course, much larger than a radio valve, and it can handle heavy currents. In practice it usually has 6 or 12 cold electrodes, known as anodes, and the hot electrode consists of an incandescent spot formed electrically on a pool of mercury. The anodes are connected to the windings of a special transformer and they carry the output current in sequence. By the correct arrangement of the transformer windings

and by certain auxiliary devices the output current can be made approximately uniform. The original rectifier was known as the Cooper-Hewitt and was of the small glass-bulb type. Since then there has been produced the large water-cooled rectifier; also an enlarged glass-bulb rectifier, and latterly the air-cooled steel-tank rectifier. The rectifier has the great virtue that there are no large moving parts and it is, in consequence, much easier to operate by remote control.

(To be continued)

Multiple-Unit Electric Working in the U.S.A.

On certain high-speed lines multiple-unit trains have schedules up to 70 m.p.h. and up to 16 cars are used

IN the United States there are only seven among the main Class 1 railway systems that operate multiple-unit suburban or outer suburban services. These are the Pennsylvania, which works services of this description over the entire 91 miles between New York and Philadelphia, as well as in various directions round the city of Philadelphia; the Reading, together with the joint Pennsylvania-Reading-Seashore lines of these two companies round Philadelphia; on suburban services out of New York and Jersey City the New York Central System, the Delaware, Lackawanna & Western, the New York, New Haven & Hartford, and the Long Island (a Pennsylvania subsidiary); and out of Chicago the Illinois Central. In addition, there is a number of important independent suburban and interurban networks, such as the New York subways; the Chicago, North Shore & Milwaukee, Chicago, South Shore & South Bend, and Chicago, Aurora & Elgin; the Pacific Electric at Los Angeles; and the Key Route at San Francisco; on all of these multiple-unit trains are worked. On the other hand, certain past electrifications of portions of Class 1 railways have been abandoned in consequence of there having been insufficient traffic to justify multiple-unit working, as, for example, the Erie from Rochester to Mount Morris, the West Shore between Syracuse and Utica (both in New York State), and the Southern Pacific lines round Portland, Oregon.

The length of multiple-unit train operated on some of these routes considerably exceeds the maximum worked on any British line. In Great Britain the record is held by the coastal services of the Southern Railway from London, which on certain services—the Portsmouth line in particular—are made up to 12 cars, in three units of four cars each, each unit with two sets of motor-gear. Six of the 12 cars are thus motor-coaches, and these Southern trains are capable of operation at speeds up to 80 m.p.h. On the New York Central System multiple-unit trains up to 16 cars are run, and every car is a power unit. As these are all coaches 69 ft. 3 in. long, seating 5 passengers aside with central gangway, the total seating capacity of such a 16-car formation is about 1,600 people. The limiting factors with multiple-unit operation, of course, are the voltage necessary to carry the electrical control impulses through a long train, the maximum power available at the conductors, and control of the braking. The Pennsylvania Railroad operates multiple-unit

trains up to a maximum of 14 cars; up to 4 cars every car is motor-equipped; in formations up to 7 cars one trailer may be run, up to 9 cars two trailers, and up to 13 cars three trailers, and 14-car trains are made up of ten motorcoaches and four trailers. The New York, New Haven & Hartford also works up to 14-car multiple-unit formations, and on this service the motorcoaches are of sufficient power to handle two trailers apiece.

Some of the American multiple-unit services are worked at very high overall speeds. The world record is probably held by the Chicago, North Shore & Milwaukee Railroad, which has 117 runs, totalling in length 1,927 miles, booked daily at 60 m.p.h. and over from start to stop; 24 of these, making 440 miles, are at 66 m.p.h. and over. Entry of the C.N.S. & M. trains into Chicago is over the elevated tracks of the Chicago Rapid Transit Company between Howard Street and the downtown area of Chicago, and for 3 miles at the Milwaukee end of the run the trains use street tramways, at greatly reduced speeds, so that high speed is confined to the 69 miles (out of the total run of 88 miles) between the city limits at Niles Centre, on the north side of Chicago, and Harrison, south of Milwaukee. The fastest running is made by the streamlined four-car "Electroliner" multiple-unit sets, which make five double journeys daily; included in their schedules are 5 runs between Racine and Harrison, 20.1 miles, in 17 min. (70.1 m.p.h.); one from North Chicago Junction to Niles Centre, 21 miles, in 18 min. (70.0 m.p.h.); one non-stop over the 74.1 miles between Howard Street and Harrison in 65 min. (68.4 m.p.h.), and one over the 44.0 miles from Kenosha to Howard Street in 39 min. (67.7 m.p.h.). On the other side of Lake Michigan from Chicago is the similar Chicago, South Shore & South Bend Railroad, which operates 50 daily runs, with a total mileage of 520, at 60 m.p.h. and over from start to stop. A typical timing is that between Gary and Tremont, 16 miles, covered by the hourly expresses in 16 min., with multiple-unit trains of up to 8 cars.

Elsewhere the same principle of high speeds is maintained with multiple-unit services, even those operating in suburban areas. Stopping trains on the New York-Philadelphia main line of the Pennsylvania Railroad, which must be sandwiched in between the expresses over one of the most densely-occupied long-distance main lines in the world, are allowed only 100 min. for the 76 miles

between Newark and North Philadelphia with 17 intermediate stops, or about 2 hr. with up to 23 stops; many of the short point-to-point runs are timed at over 50 m.p.h. from start to stop. With its 8-car multiple-unit trains, the Delaware, Lackawanna & Western Railroad maintains a 75 min. service between its Hoboken terminal in Jersey City and Dover, with 19 intermediate stops, and express trains cut this time to a minimum of 59 min., making such runs as Newark to Summit, 12.3 miles, in 15 min., and Newark to Chatham, 15.7 miles, in 20 min.

Of the foregoing lines the Pennsylvania, Reading, and New York, New Haven & Hartford on their principal routes use overhead conductors at 11,000 volts a.c. The New York Central, however, uses third-rail electrification at 650 volts d.c., and as the N.Y.N.H. & H. reaches the Grand Central Terminal in New York over 12 miles of N.Y.C. tracks from Woodlawn, both types of equipment are required by the latter company. The Long Island Rail Road, an affiliate of the Pennsylvania, uses third-rail at 650 volts d.c. on 449 route miles of its suburban line. The Delaware, Lackawanna & Western suburban electrification out of Hoboken is overhead, but d.c. at 3,000 volts. Of the inter-urban lines the high-speed Chicago, North Shore & Milwaukee also uses overhead transmission, but at the relatively low voltage of 600 d.c.

BULGARIAN ELECTRIFICATION PLANS.—

A recently-published plan for the electrification of portions of the Bulgarian railway system provide for conversion to be carried out in two stages, the first of which is to be as follows:—

	km.	miles
Sofia-Belovo	120	75
Sofia-Mezdra	100	60
Sofia-Pernik	50	30
Sofia-Piroto	80	50
Total	350	215

The second stage will comprise the following lines:—

	km.	miles
Mezdra-Gorna Orehovitza	230	140
Gorna Orehovitza - Stara Zagora	170	100
Belovo-Plovdiv-Svilengrad	100	60
Total	500	300

SOUTHERN RAILWAY FREIGHT LOCOMOTIVE C.C.I.—The traction motors are supplied from motor generators with flywheels heavy enough to carry a train over dead sections of the track or to make a start on such a section. It is not known what size of flywheel is used, but calculation shows that a solid disc 6 ft. dia. by 1 ft. thick would yield enough energy in slowing from 720 to 360 r.p.m. to accelerate 1,000 tons to 6 m.p.h. in 100 ft. against 12 lb. per ton.

New Type Ministry of Supply Locomotives for Use in Africa

For general service on 3 ft. 6 in. gauge lines

TO meet the new demands which wartime conditions have imposed on many African railways, the Ministry of Supply has arranged for the construction of a new type of 4-6-2 locomotive, with a double-bogie tender, for general service on 3 ft. 6 in. gauge lines in the Sudan, and also in Nigeria, Gold Coast, Belgian Congo, Ocean Congo, and Rhodesia. These engines are normally oil-burners, but are arranged so as to be easily converted to burn coal, and the first batch numbers some 55 engines, which have been constructed by the North British Locomotive Company. Great care has been taken to make the engines of interchangeable parts, and to ensure that they can be run on the railways of the five regions named above; nevertheless, the haphazard development of railways in Africa has created special difficulties for those responsible for the design. Broadly, the design follows Sudan Government Railways practice and the locomotives also conform generally to the five non-Sudanese loading gauges concerned; but even so, it is necessary to remove the footsteps, and to cut holes in the footstep plates as a substitute for steps, in order to clear the Nigerian and Gold Coast loading gauges. The variety of patterns of buffers and drawgear in use on the railways concerned has also contributed to the obstacles to be surmounted.

The engines are provided with central pin-and-link couplers, and the front drag-box of the engine and rear dragbox of the tender are arranged to accommodate the couplers favoured by the various railway systems as follows: In Nigeria, A.B.C. automatic couplers; in the Gold Coast, the West African coupler; in the Belgian Congo and Rhodesia, the M.C.B. coupler; and in Ocean Congo, the Willison coupler. Otherwise, in matters of detail, the standard practice and equipment of the Sudan Government Railways has been retained. The principal dimensions are as follow:—

Engine		
Cylinders, dia.	18 in.	
" stroke	24 in.	
Bogie wheels, dia.	2 ft. 4½ in.	
Coupled wheels, dia.	4 ft. 6 in.	
Trailing wheels, dia.	3 ft. 0 in.	
Evaporative heating surface, tubes	983 sq. ft.	
" " " firebox	142 sq. ft.	
" " " Total	1,125 sq. ft.	
Superheating surface	260 sq. ft.	
Combined total	1,385 sq. ft.	
Firegrate area	26 sq. ft.	
Boiler pressure, per sq. in.	180 lb.	
Tractive effort (at 75 per cent. boiler pressure)	19,440 lb.	
Adhesion weight	34½ tons.	
Weight of engine, in working order	58 tons.	
Tender		
Wheels, dia.	2 ft. 9½ in.	
Wheelbase	15 ft. 9 in.	
Water capacity	4,000 gal.	
Fuel capacity	1,800 gal. oil or 8 tons coal.	
Weight full	49½ tons.	
Total weight of engine and tender	107½ tons.	

The barrel level is constructed of three telescopic rings, of ⅝-in. steel plates; the front two rings are parallel, but the largest, nearest the firebox, is slightly coned to a maximum outside dia. of 4 ft. 10½ in. A manhole cover for the removal of scale, etc., is fitted at the bottom of this ring. The inner firebox is of copper, and copper stays are used throughout the water space. Both boiler and firebox are insulated with magnesia blocks. There are 83 solid-drawn steel tubes of 2 in. external dia. and 11 s.w.g. thick, and the superheater elements are housed in 18 flues 5¼ in. external dia. and 8 s.w.g. thick. A wide firegrate is provided,

extending over the supplementary frames; and cast-iron rocking and drop grates suitable for hand operation, are provided with each locomotive, for use in case of conversion from oil to coal fuel. The inner firebox projects 1 ft. 8 in. into the barrel to form a combustion chamber. A spark arrester, consisting of steel plates and wire screens, is housed in the smokebox.

Two 3-in. Ross muffled pop safety valves are mounted over the firebox, and there are two steam manifolds, one exclusively for the oil fuel steam valves, and one for all other steam valves. There are two No. 9 Gresham & Craven hot-water injectors, of the under-platform pattern. An ashpan drench cock is provided for use when burning coal.

Cylinders and Motion

Cylinders, pistons, and rings are all of cast iron; the width of the latter is ⅝ in. and the thickness ⅝ in.; "Britimp" metallic packing is used. The steel cross-head has cast-iron slide blocks lined with whitmetal. Walschaerts valve gear, operated by a screw, is adopted. Cylinder lubrication is effected by a four-feed British Detroit sight-feed lubricator.

Framing, Axleboxes, and Wheels

The framing is a combination of bar and plate varieties, the main frames consisting of steel slabs, while the auxiliary frames for the trailing wheels are of steel plate nearly 2 ft. deep. Side play to the extent of 3 in. is permitted for the bogie and ½ in. (on each side of the centre) for the trailing wheels. Phosphor bronze axlebox bearings are employed throughout; the castings in which they are housed are of steel for bogie and coupled wheels and of cast iron for the trailing wheels. All axlebox keeps are packed with white waste. Apparently it has been decided to make an extensive trial of the advantages of extra sanding facilities, as about half the engines in this batch are being provided with additional dry sanding gear to the front of the leading coupled wheels.

Tools

The following tools are supplied with each locomotive: two 20-ton screw jacks; 3 pinch bars; 1 copper hammer; 1 quarter hammer; 1 hand hammer; 6 pin punches; 1 plug rod; 6 tube plugs; 2 hand brushes; 1 large and 1 small monkey wrench; 1 packing drawer and 1 packing hook; also chisels, oil cans and spanners. The following tools are also supplied for use in case the engines are converted to burn coal: 1 rake; 1 pricker; 1 dart; 1 coal shovel; 1 clinker shovel; and 1 coal hammer.

Oil Fuel Apparatus

The oil-burning equipment is similar to that used on 4-4-0 locomotives of the Egyptian State Railways. The ashpan is modified to allow of a false bottom being inserted, through the bottom door, when burning oil. The gunmetal burner is located on the centre line at the front end. Air inlets are provided in the bottom plate, near the burner, and the air supply is controlled by adjusting, by means of a pin and chain, a small door on the front plate. The firebox walls are lined with firebricks and the hinged firedoor is provided with a "peephole" enabling the burner and furnace to be viewed from the footplate.

A rectangular cross-section has been adopted for the burner, which comprises an upper chamber into which the oil supply is conducted, and a lower chamber for the atomising steam jet. A cleaner cock is also fitted to enable the upper (oil) chamber to be blown through by steam when cleaning is necessary.

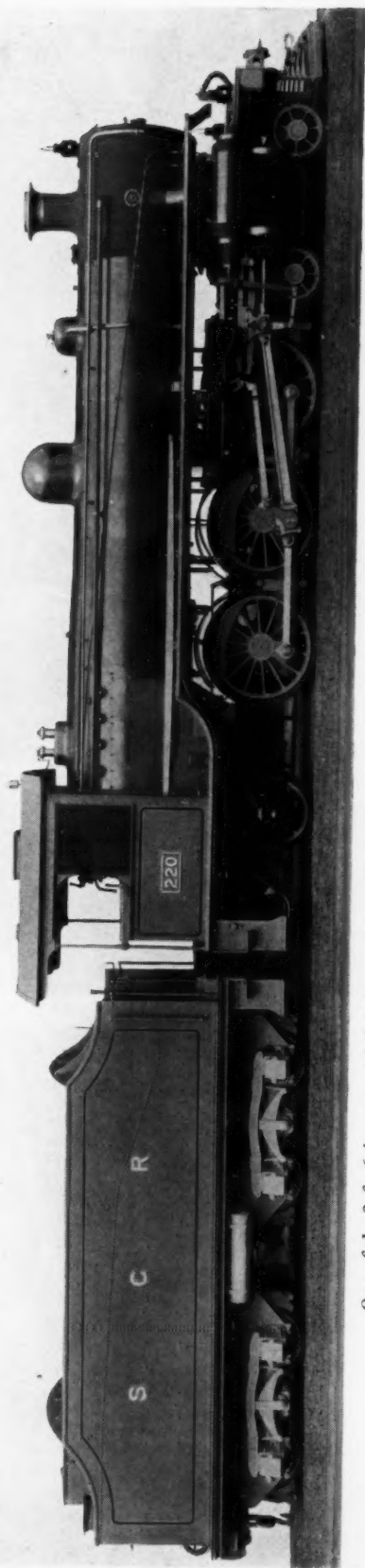
The oil tank holds 1,800 gal., and is of welded construction. A heating coil is fitted near the outlet. On leaving the tank, the oil gravitates through the heater on the engine to a regulating cock which is provided with a square passage, arranged to provide finely graduated openings for different working conditions. Regulation is effected by a handwheel geared to a toothed sector with graduations from 0° to 90°. Steam supply to the lower chamber of the burner is regulated by a steam cock, and should be so controlled that no greater pressure is allowed than that needed for complete combustion, or alternatively to suit standby conditions. Auxiliary steam and blower cocks are provided for use when starting.

Conversion to coal burning can be quite easily made. The oil burning equipment is removed; a filling-up plate is then fitted over the hole at the front of the ashpan, and firebars are then inserted. The firebar carriers are left in position, to assist in supporting the brickwork. Finally a fire-door of the sliding type is fitted.

SPANISH AIRCRAFT INDUSTRY.—A Law of April, 1941, provided for the establishment of certain aircraft works in Spain in which the State should own one-third of the share capital; the balance was allotted to a private concern, *Compañía Mercantil Construcciones Aeronáuticas Sociedad Anónima*. Subsequently it was provided that the State holdings should be taken over by the then newly-created National Industrial Institute. Under a Decree of July 4 last, a company is to be created, with the name of *Construcciones Aeronáuticas Sociedad Anónima*, to operate the works concerned; its capital is to be 45,000,000 pesetas, of which one-third will be owned by the National Industrial Institute, and the remainder will be in private hands. The board will include representatives of the Institute and one representative of the Air Ministry. It is stated that private shares must be held by Spaniards, and that directors and executive officers must be Spanish. The new company is to establish laboratories for testing materials delivered to it, and for research work, and is to provide training centres for its employees. It will co-operate with all concerns manufacturing aeroplane accessories.

SPANISH AIR TRAFFIC IN 1942.—According to official statistics recently issued in Spain, air traffic in that country decreased considerably in 1942, except for passenger, baggage, and goods transit traffic which rose substantially. The official figures are shown in the table below, compared with those for 1941:—

	1942	1941
Civilian aircraft—		
Incoming	5,526	6,990
Outgoing	5,492	6,984
Passengers—		
Incoming	46,094	57,228
Outgoing	61,422	51,188
Transit	16,642	14,638
Mail and newspapers—		
Incoming (kg.)	221,392	392,086
Outgoing (kg.)	287,908	347,751
Transit (kg.)	221,155	253,936
Luggage and goods—		
Incoming (kg.)	874,953	1,068,826
Outgoing (kg.)	977,628	1,203,160
Transit (kg.)	701,722	467,732



One of the 3 ft. 6 in. gauge 4-6-2 locomotives with double-bogie tender for use on the Sudan Government Railways

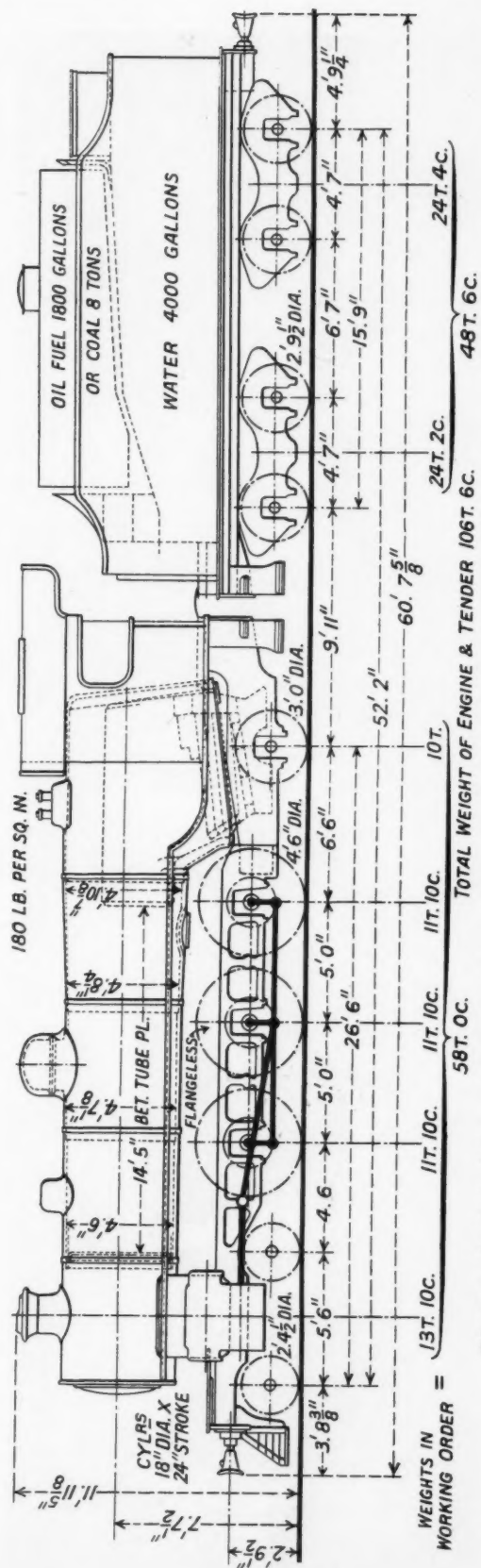
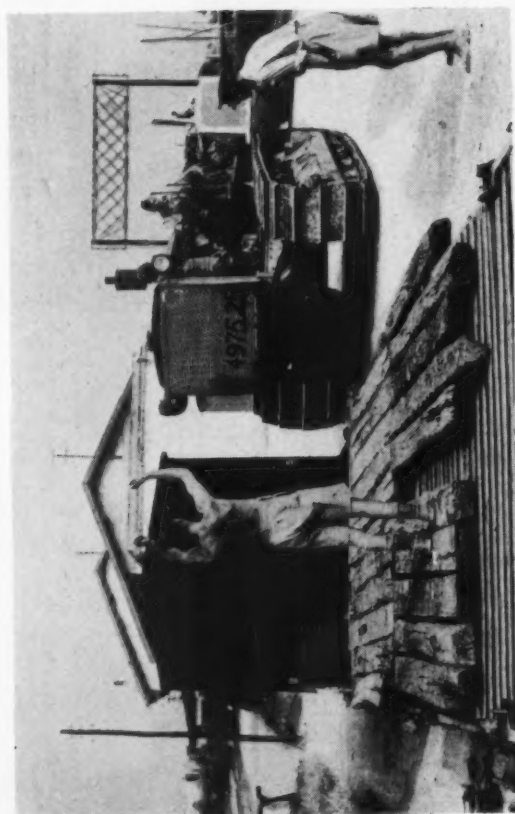


Diagram of principal dimensions and weights of the Ministry of Supply 4-6-2 locomotive. (See article on opposite page)

Sicilian Railways as Allied Supply Lines (See page 289)



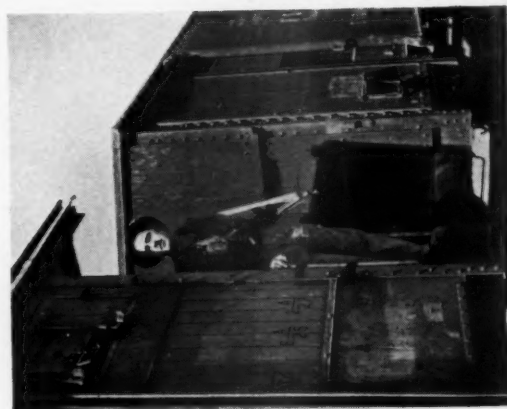
Railway transport officers directing the loading of recently-landed bulldozers for transport by the Sicilian railways



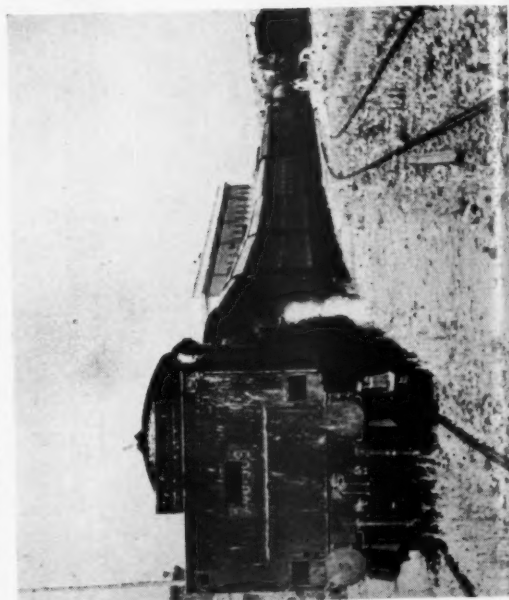
Suppers of a railway company of Royal Engineers working alongside an Italian maintenance party repairing a damaged railway



Troop train arriving at a supply port station



Armed guard to prevent sabotage



Supply train leaving a Sicilian port

RAILWAY NEWS SECTION

PERSONAL

Mr. W. M. Neal, a Director of the company and Vice-President, and Mr. B. W. Roberts, General Purchasing Agent, Canadian Pacific Railway, have arrived in this country as guests of the Navy, Army & Air Force Institutes, at the disposal of which the C.P.R. has placed its Purchasing Agency, to aid the dispatch of Canadian goods to N.A.A.F.I. canteens overseas.

Mr. B. W. Roberts, General Purchasing Agent, Canadian Pacific Railway, who, as recorded above, is visiting this country,

Mr. William Merton Neal, Vice-President, Canadian Pacific Railway, and a Director of the company, who, as recorded above, is visiting this country, was born in 1886, and entered the service of the C.P.R. in Toronto, in 1902, as a clerk in the Superintendent's Office. Two years later he went to Winnipeg as stenographer to the Superintendent of Transportation; subsequently he became a travelling car checker, and in 1908 was made Chief Clerk to the Superintendent at Souris, Manitoba. In 1910 he became Chief Clerk in the Car Service Department, Winnipeg, and five years later was transferred to Montreal in the

heavy increase in traffic. In addition to his new executive duties, he will continue to have complete charge of all accounting activities connected with the widespread undertakings of the company and its subsidiaries, including the manufacture of munitions. Mr. Leslie has been associated with the company for 30 years; he worked as a chainman on construction, in 1913, during vacation from McGill University, and in 1915 he became a transportation-student special-apprentice at the Angus Shops, Montreal. He graduated as B.Sc. in railway transportation a year later. During the war of 1914-19, he served with



Mr. B. W. Roberts

General Purchasing Agent, C.P.R., who is visiting this country



Mr. W. M. Neal

Director & Vice-President, C.P.R., who is visiting this country



Mr. E. A. Leslie

Appointed Vice-President & Comptroller, Canadian Pacific Railway

entered the company's service in 1907 as a clerk in the Treasury Department, and later held a position in the Purchasing Department, Montreal. In 1921 he was appointed Purchasing Agent at Vancouver, and subsequently was promoted to be Chief Assistant to the General Purchasing Agent at Montreal, whom he succeeded after a short period. Under Mr. Roberts' control are the entire purchasing interests of the Canadian Pacific Railway, Hotels, Steamships, and Air Lines.

Captain B. H. Peter, who is Managing Director, Westinghouse Brake & Signal Co. Ltd., has been appointed a member of the Colonial Economic Advisory Committee recently set up by the Secretary of State for the Colonies.

His many friends will be glad to learn that Commander H. S. Whitworth, R.N.V.R., who for 28 years has been Principal Railway Transport Officer at the Admiralty, has returned to duty after a serious operation and period of convalescence at the Royal Naval Hospital, Osborne House.

Mr. E. Bernard Jones, Commercial Manager of Cammell Laird & Co. Ltd., has been appointed Secretary & Accountant to the company in succession to the late Mr. S. Woodward.

same capacity, where he afterwards acted as Superintendent of Car Service. In 1917 he was appointed General Secretary to the Canadian Railway War Board, to assist in the co-ordination of rail movements of troops and supplies to the east coast; he remained in that service until after the close of hostilities. Mr. Neal later returned to the C.P.R., and was successively Assistant General Superintendent, Montreal; Assistant General Superintendent, Ontario; General Superintendent, Algoma; and Assistant to the Vice-President of the system at Montreal. In 1927 he was made General Manager, and, in 1934, Vice-President, Western Lines. In 1940 and 1941 he accomplished much of the organisational work involved in the purchase by the C.P.R. of aviation companies, and he is Vice-President of Canadian Pacific Air Lines Limited. In May, 1942, Mr. Neal was elected Vice-President of the C.P.R., a Director of the company, and a member of the executive committee.

Mr. Eric A. Leslie, Comptroller, Canadian Pacific Railway, as recorded in our August 27 issue, has been appointed to the newly-created position of Vice-President & Comptroller. This appointment has been made necessary by the enlargement of executive responsibilities resulting from war conditions and regulations, as well as from the

the Armed Forces; he rejoined the company as a clerk in the General Manager's Office, and became Secretary to the General Manager in December of the latter year. He was appointed Chief Clerk to the Superintendent, Toronto Terminals Division, in 1921; and four years later was made Chief Joint Facilities Accountant in the office of the Auditor of Disbursements. He became Chief Accountant, Joint Facilities Bureau, in 1926. Mr. Leslie was made Assistant Comptroller in 1928, Deputy Comptroller in 1932, and Comptroller in 1935. He attended as a railway officer the sittings in Ottawa of the Royal Commission inquiring into railways and transport in Canada in 1931-32. In 1938 he took an active part in the compilation of data on the unification of Canadian railways for presentation to a special committee of the Senate. He is First Vice-Chairman, Accounting Division, Association of American Railroads. Mr. Leslie is the second of his family to be Vice-President & Comptroller, for his father, Mr. John Leslie, held that position from 1926 until 1928, when he became Vice-President & Treasurer, a post which he retained until his retirement in 1932.

Mr. H. H. Grindley, O.B.E., who is Director & General Manager, Central Uruguay Railway Co. of Monte Video Ltd.,

as recorded in our July 16 issue, has been appointed Managing Director of the Midland, Northern, and North Western Railway Companies of Uruguay. Mr. Grindley entered the service of the former London & North Western Railway in 1904 as a probationer on the nomination of the late Sir Robert Turnbull, and, until September, 1914, served in various capacities on that railway. In the latter month he joined the Royal Field Artillery (T.), and served in France, Salonika, Serbia, and Italy, until demobilised in 1920, when he held the position of Deputy Assistant Director-General of Transportation, and Acting Assistant Director-General of Transportation, with the British forces in Italy, with

August, 1943, to take up an appointment at the B.E.T. headquarters.

Mr. Charles E. Lee, Associate Editor of *The Railway Gazette*, has been elected an Associate Member of the Public Transport Association.

Mr. W. J. Bradbury, Accountant, Midland, Northern, and North Western Railways of Uruguay, as recorded in our July 16 issue, has been appointed Acting General Manager, in addition to his duties as Accountant. Mr. Bradbury served for twelve years on the staff of the Accountant of the Alexandra (Newport & South

Mr. M. A. Metcalf, Assistant to the President, Canadian National Railways, who, as recorded above, has been appointed Executive Assistant to the President, joined the Operating Department of the former Canadian Northern Railway at Toronto in 1910. He became Secretary to the General Manager in 1917, and Secretary to the Vice-President in charge of Operation & Construction in 1920. After the consolidation of the Canadian Northern and other lines into the Canadian National Railways, Mr. Metcalf was appointed, in 1922, Secretary to the Operating Vice-President of the system, with headquarters at Montreal. He was Secretary to the President from 1934 to



Mr. H. H. Grindley

Appointed Managing Director,
Uruguay Midland, Northern,
and North Western Railway Companies



Mr. W. J. Bradbury

Appointed Acting General Manager,
Uruguay Midland, Northern,
and North Western Railways



Mr. M. A. Metcalf

Appointed Executive Assistant
to the President,
Canadian National Railways

the rank of Major. For his war services he was made O.B.E. (Military Division) and was mentioned four times in dispatches. In June, 1920, Mr. Grindley went to the Central Uruguay Railway as Assistant to the General Manager, and became Assistant General Manager in 1924. In 1926 he was appointed General Manager, and in 1936 was made a Director.

Mr. W. T. James has been elected to the boards of the East Yorkshire Motor Services Limited, the Hebble Motor Services Limited, and the Yorkshire Woollen District Transport Co. Ltd., and has been appointed Managing Director of the two first-mentioned companies and Deputy Chairman of the last-named company. These companies are members of the British Electric Traction Group, and are railway associates. Mr. James, who is a native of Glamorgan, began his connection with road passenger transport in 1920, when Lewis & James Limited (Western Valley Motor Services), of which Mr. James was a founder and director, was formed. In 1929, Lewis & James Limited became associated with the British Electric Traction Co. Ltd. and was thereafter operated in conjunction with the Western Welsh Omnibus Co. Ltd. (a B.E.T. associate) until November, 1933, when the undertaking was absorbed by the Western Welsh Company. Mr. James was appointed Traffic Manager of the Western Welsh Company in 1932, and became General Manager in 1938, which position he resigned in

Wales) Docks & Railway Company before joining the Midland Uruguay Railway in 1913. Two years later he was appointed Assistant Accountant, and in 1922 was made Chief Accountant.

We regret to record the death in New York on September 11, at the age of 59, of Lt.-Colonel Clive Mansfield Turner, General Traffic Manager, Associated British & Irish Railways Incorporated, New York.

Mr. Stanley Christopherson, Deputy-Chairman, Midland Bank Limited, has consented to succeed the late Mr. Reginald McKenna as Chairman until a permanent chairman is elected.

We regret to record the death on September 7, at the age of 65, of Mr. W. L. Box, who retired on March 31 last from the position of General Manager & Engineer, Liverpool Overhead Railway. Some details of Mr. Box's career were given in our March 26 issue.

CANADIAN NATIONAL RAILWAYS

Mr. M. A. Metcalf, Assistant to the President, has been appointed Executive Assistant to the President, in succession to the late Mr. E. P. Mallory.

Mr. G. W. V. Shaw, Assistant Secretary to the company, has been appointed Office Assistant to the President.

1936, in which year he was promoted to be Assistant to the President.

L.N.E.R. APPOINTMENTS

The L.N.E.R. announces the following appointments:—

Mr. J. E. M. Roberts, District Superintendent, Sunderland, to be District Superintendent, Darlington, in succession to Mr. T. B. Hare, who has been released for special duties.

Mr. A. J. Johnson, Assistant District Superintendent, York, to be Acting District Superintendent, Sunderland, in succession to Mr. J. E. M. Roberts.

Mr. J. L. Barton, Goods Agent, Hull, to be Acting Assistant District Goods Manager, Hull, in succession to Mr. F. T. Gray.

Mr. J. Blackstock, Assistant to District Goods & Passenger Manager, Dundee, to be Acting Assistant District Goods Manager, Newcastle.

Mr. A. Clear, Locomotive Depot Superintendent, Mexborough, to be District Locomotive Superintendent, Norwich, in succession to Mr. B. Adkinson.

Mr. E. Coleby, Assistant Solicitor (Conveyancing), to be Assistant Solicitor (Common Law & Conveyancing).

L.N.E.R. RETIREMENT

The L.N.E.R. announces that Mr. G. W. Phillips, District Locomotive Superintendent, Glasgow, will retire on October 27.

TRANSPORT SERVICES AND THE WAR—207

Train Heating

The present intention is that train heating will not begin until November 1, and will last until March 31. During October and April, however, all long-distance night trains and troop trains will be heated.

Travel to and from Eire

By reason of the heavy demand for sailing tickets on the steamship services between Great Britain and Eire, the sailing ticket system, which was to have ended on September 30, will be continued until further notice.

B.E.T. and Producer Gas

The British Electric Traction group of bus companies operated more than a quarter of a million vehicle miles on producer gas during the month of July, 1943. Still more producer-gas units are being put into operation by the group under the Ministry of War Transport scheme for economy in the use of imported fuel.

Civilian Air Raid Casualties in August

The Ministry of Home Security has announced the following figures of civilian casualties due to air raids in the United Kingdom during the month of August:

Killed (or missing believed killed)	...	...	108
Injured and detained in hospital	...	...	164

The casualties are classified as follow:

	Men	Women	Under 16
Killed (or missing believed killed)	38	41	29
Injured and detained in hospital	75	72	17

Faster London Bus Travel

The proposals of the London Passenger Transport Board to the Transport & General Workers' Union for the faster running of buses this winter have now been generally accepted. New schedules are being prepared and will be introduced on October 27. Faster times will operate on 161 routes. Although the average saving in running time on each route will not amount to more than a few minutes, the total time saved on all routes will be substantial. It will be used partly to lengthen the men's meal-relief period, by as much as ten minutes, and partly to reduce the longer spells of duty from 5½ hr. to a maximum of 4½ hr.

Proposed New Turkish Air Lines

The General Directorate of Turkish Civil Aviation is planning three new air services, and has purchased 18 new air liners, including five German Junkers Ju 52. One of the new services is to connect Ankara with Erzerum, via Sivas; the second is to form a connection between Ankara and Baghdad; and the third line is to link Ankara with Lydda (in Palestine), via Adana. Moreover, two services a day in each direction will be maintained between Ankara and Istanbul, instead of one in each direction as at present.

Railway Material for Jamaica

The Legislative Council of Jamaica has approved an expenditure of approximately £300,000 to increase the rolling stock of the Jamaica Government Railway, a line 215 miles in length, of standard gauge; 50 goods and 25 other wagons, six main-line locomotives, and two shunting engines are to be added; the orders have been placed in the United States and Canada. Under the stress of war conditions, replacements which should have been decided upon several years ago were deferred. Meanwhile the department has borne, and continues to bear, the brunt of internal transport, by reason of the control of motor

vehicles and petrol. A brief description with map, of the Jamaica Government Railway appeared in *The Railway Gazette* of June 18, 1943, page 616.

Ceylon Railway Engineer Corps

According to a *Government Gazette* notification, the railway unit of the Ceylon Engineer Corps of the Ceylon Defence Force has been deemed a separate Corps and designated the Ceylon Railway Engineer Corps. For the purpose of the internal administration and discipline of the Corps, the members are divided into two categories, one consisting of members who are not employees of the railway department, and the other of members who are.

Charcoal Fuel in Ceylon

Mr. G. C. Slater, President of the Automobile Association of Ceylon, speaking at the 38th annual general meeting, at Colombo, said that the Automobile Association had done its utmost to promote the use of producer gas as a wartime fuel for heavy motor vehicles. Success had still not been achieved, but he felt that it was only a question of time before petrol economy would be effected in Ceylon by large numbers of lorries, buses, etc., using charcoal as fuel.

Swedish Lorry Fleet Reductions

In accordance with a recent decision of the Swedish Traffic Commission, the number of motor lorries on the roads is to be reduced to 20,000, through curtailing the allocation of spare tyres. New priority rules have already been issued. There are at present some 31,500 motor lorries in service, in addition to about 3,000 lorries mounted on the new type of "P-bogies" where lorry wheels and tyres have been replaced by light wheels and tyres of the kind used for motorcars; two such wheels have been substituted for one normal lorry wheel. Under the reduction scheme, both private owners and road service undertakings will be compelled to withdraw a certain number of lorries within the next few months. The building industry has been advised to use other means of conveyance. The forestry industry already uses a number of agricultural tractors for its transport requirements.

Bulgarian Road Links

The Bulgarian Ministry of Works attaches special importance to the establishment of overland bus connections between Bulgaria proper and the Bulgarian-occupied territories in the south-west (southern Yugoslavia) and in the south (north-eastern Greece), especially as the railway links now being built are still far from complete. A privately-operated bus service between Gueshevo and Skopje has been superseded by a bus line operated by the Bulgarian Ministry of Works, and it now takes some 4 hours to cover the distance of 125 km. (78 miles). Ohrid (in the south-western corner of Yugoslavia) and Bitolj have recently been connected with Skopje by a 279-mile bus line operated by the Ministry of Works as a wholly Bulgarian-controlled alternative to the 2-ft. gauge railway between Skopje and Ohrid, 355 km. (220 miles) long, which crosses Italian-occupied territory.

Bulgarian-occupied north-eastern Greece was recently connected by a State-operated bus line between Momtchilgrad in Bulgaria and Komotini, a road distance of some 50 km. (31 miles). Momtchilgrad (shown in old maps under its Turkish name of Mastanli) is the terminus of the 71-mile standard-gauge railway branching off at Rakovsky from the Plovdiv-Svilengrad main line. Komotini (which under Bul-

garian rule has resumed its old Turkish name of Gumuldjina) is on the Salonica-Alexandropolis main line, some 340 km. (211 miles) to the east of Salonica. The Establishment of a State-operated bus service between Sofia and Kavala, a distance of about 391 km. (243 miles), is envisaged for the near future. This would cross the Salonica-Alexandropolis railway at Drama.

Sicilian Railways

By courtesy of the War Office and the Ministry of Information, some interesting photographs have been made available to us, showing Sicilian railway scenes during and after the campaign in that island.

In a remarkably short time after the occupation of all Sicily, the Allied Army railway officials have overcome many difficulties, and have resumed the working of the Sicilian railways with the complete co-operation of the Italian railway officials. Bomb craters and debris on the lines, and unexploded bombs, were dealt with quickly, and already vast quantities of raw materials are being moved daily from the Allied supply ports. The Allied Forces took over a total of 300 locomotives, more than 55 per cent. of which were in good working order, together with ample rolling stock. In some cases Army drivers accompany the trains, but in every case armed guards operate the brakes and are available to protect the trains against sabotage; we gather that the last-named task has not involved heavy work. A series of 5 photographs of the Sicilian railways in Allied occupation is reproduced at page 286.

The New Zealand Railways and the War

During the financial year ended March 31, 1943, the New Zealand Government Railways achieved unprecedented results in both the financial and the operational spheres. In present circumstances, however, financial results are overshadowed by the vital role which is being played by the railways in the war effort of the Dominion, and considerable attention is paid to that aspect in the railways statement by the Minister of Railways, the Hon. R. Semple. It is pointed out that the present conflict has shown quite clearly that in time of stress the railway is the only reliable agency for bulk inland transport.

Since August, 1939, New Zealand has suffered a progressive diminution in its transport capacity; the coastwise trade has been limited, and the capacity to transport by road has been severely reduced, first by the petrol position and more recently by the progressively acute tyre shortage. The brunt of this loss in transport capacity has been borne by the railways, and the difficulties attendant on the transport of military personnel and the large volume of war supplies and equipment have been increased correspondingly. In meeting and overcoming these difficulties the railways have played an essential part in the country's defence system, not only in successfully handling the greatly increased volume of traffic, but also on the administrative side.

The railway representatives on the various committees set up to deal with road transport, cargo clearance, and shipping have performed very valuable work in assisting road operators, harbour authorities, and shipping interests to overcome their difficulties. The membership of these committees comprises representatives of varied and diverse interests, and the Minister of Railways congratulates them on the effective work they have done and also on the thoroughly harmonious relationships which have obtained, not only within the

committees, but also as between the committees and the interests affected by their operations.

This war has also shown that, from the broad national viewpoint, the Government's policy of extending the main railway systems of both islands was amply justified, and the severe disruption of other forms of transport by reason of petrol and rubber shortages and war conditions generally, has indicated clearly that in the transport sphere the railways form the foundation upon which all defence structures must rest. In order to relieve the position which arose from the rubber and fuel shortage, traffic was worked as soon as practicable over the Waikokopu-Gisborne (35 miles), the Dargaville-Kirikopuni (19 miles), the Wharanui-Clarence (19½ miles), and the Westport-Inangahua (28 miles) sections, even though these lines were not ready for taking over by the Railway Department. This working has produced vital economies in fuel and tyres, and the completion of further portions of the South Island Main Trunk, and particularly the Hundalee-Oaro section (10 miles) which eliminates a heavy hill section of the road journey, should enable further substantial savings in petrol and tyres to be made.

Conditions arising from the war have been responsible for an impressive increase in railway revenue, to which we refer in an editorial note, page 274. The effects of the restriction on the sale of petrol, the movement of the armed forces, the carriage of war equipment and supplies, and the longer haulages resulting from the centralisation of shipping, continued to benefit receipts; and to these factors were added during the year 1942-43 the development of an acute tyre shortage, a large increase in both export and import trade and a general increase in industrial activity connected with the intensification of the war in the Pacific area. At times the demands

on the railways have been met only with great difficulty. In the year ended March 31, 1943, ordinary passengers totalled 17,171,214 (compared with 11,105,627 in the previous year); season tickets 1,377,825 (1,167,115); total passenger journeys 36,133,268 (28,610,945); goods tonnage 8,035,046 (7,734,650); livestock tonnage 852,043 (739,115); revenue train mileage 15,139,882 (13,978,961); and engine mileage 20,736,574 (19,147,871).

When reviewing the work of the railways it must be borne in mind that they have not been free to expand their staff and facilities to meet the greatly increased demand. On the staff side a total of 6,876 employees, or 26.6 per cent. of the pre-war staff, is at present serving with the armed forces, of which 78 have been posted missing and 214 are known to be prisoners of war. The number of those who have lost their lives is 168. A further 84 of the railway staff have been loaned to other Departments and to private firms engaged on war work. To some extent these men have been replaced by the new appointees and by the engagement of women, of whom 1,400 have been taken on by the railways since the beginning of the war. The work of these women in clerical, portering, car-cleaning, and other positions has been of great value to the railways. Nevertheless, the railway staff is still 3,215, or 12.5 per cent., below the pre-war figure, and this, coupled with loss of experienced men to the armed forces, has meant long hours and hard work for all sections of the staff.

In the workshops the rate of manufacture of munitions has been sustained throughout the year. The production of universal carrier parts, bodies for beaverettes, trench mortars, bomb casings, and of other types of equipment for all the Services, has been continued, and to these has been added the building of marine engines and boilers for Navy trawlers.

This work has been carried on without interfering with the maintenance of railway rolling stock, which must, of course, be the prime factor for consideration in the activities of the Railway Department's workshops. By reason of the difficulty in securing certain necessary parts from overseas, a good deal of improvisation has been necessary in order to maintain the locomotives and rolling stock in a satisfactory state of repair.

New U.S.A. Emergency Standard Wagons

Some of the first bogie flat wagons of the United States war emergency design have been delivered to the Western Maryland Railroad. Departures from the usual design include the replacement of steel stringers and diagonal braces by wood stringers throughout, and certain changes in construction to suit this substitution; a wooden floor is also used. Six longitudinal wooden stringers are used between the bogies, and eight over the bogies; the change from six to eight is made at the first cross-tie at the back of each bolster. Each wagon is 54 ft. 2 in. long over couplers, and 53 ft. 6 in. over end sills; the width over side sills is 9 ft. 2½ in., and over the pockets provided for the vertical stakes 10 ft. 1½ in.; there are 29 side stake pockets and 4 at the ends. From rail level to the floor level of the wagon is 3 ft. 7½ in. Light-weight methods of construction have brought the tare weight of each wagon down to 26 short tons (23 tons of 2,240 lb.); the capacity of each is 50 short tons (44½ tons of 2,240 lb.). Each car is equipped with AB 10 in. air-brake equipment, Royal Type F brake regulators, and Ajax hand-brake; the hand-brake is applied by a unit mounted near the end of the side sill, on brackets which permit the unit to be dropped clear of the wagon floor when the wagon is being loaded or unloaded.

Locomotive Building in Austria

By Alexander C. Niven

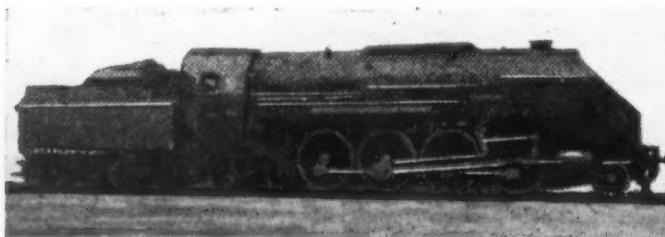
Recent Allied air attacks on the locomotive-building plants in Austria have directed attention to the importance of the industry, especially as in present conditions it is less vulnerable to air raiding than most parts of German-controlled Europe. Austria, now known as the German province of Ostmark, has long been one of the leading locomotive-building countries of Europe, and Germany's present need for new locomotives and wagons has been met in part by the intensive use of the Austrian industry, now mostly taken over by the Hermann Göring Werke A.G. These factories are working to capacity, and Germany is exhibiting her pride of possession of the

Austrian industry by propaganda concerning the "long experience of the Austrian locomotive engineers." What was probably the peak of Austrian locomotive-building successes was reached in 1928 with the production of the most powerful express locomotive in Europe, a 2-8-4 known as Type 214 (*Reihe 214*) by the Austrian Federal Railways, which became Type 12 of the Reichsbahn. This locomotive was one of the few types capable of being used on the difficult Roumanian lines, and since then about 86 of these, and several 2-10-2 locomotives for goods trains, have been exported to Roumania.

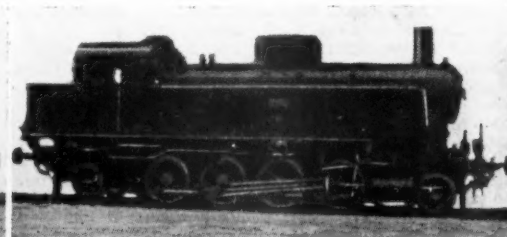
At present any German locomotive exports are provided by the Austrian industry. Such exports recently have been mainly to friendly neighbours, of which the best customer has been Slovakia. To this country Germany sent

two types of locomotives, both produced in Austria. The first one was a light 2-4-2 tank locomotive capable of a speed of 100 km. p.h. (62 m.p.h.). The second type was a 2-8-2 tank engine (illustrated) which is used on the Slovak secondary lines. Germany also produces special locomotives in Austria for use in Bulgarian mines. For this purpose a special model was built known as the 900 mm. (2 ft. 11½ in.) gauge Pernik ("B"-gekuppelte Abraumlokomotive).

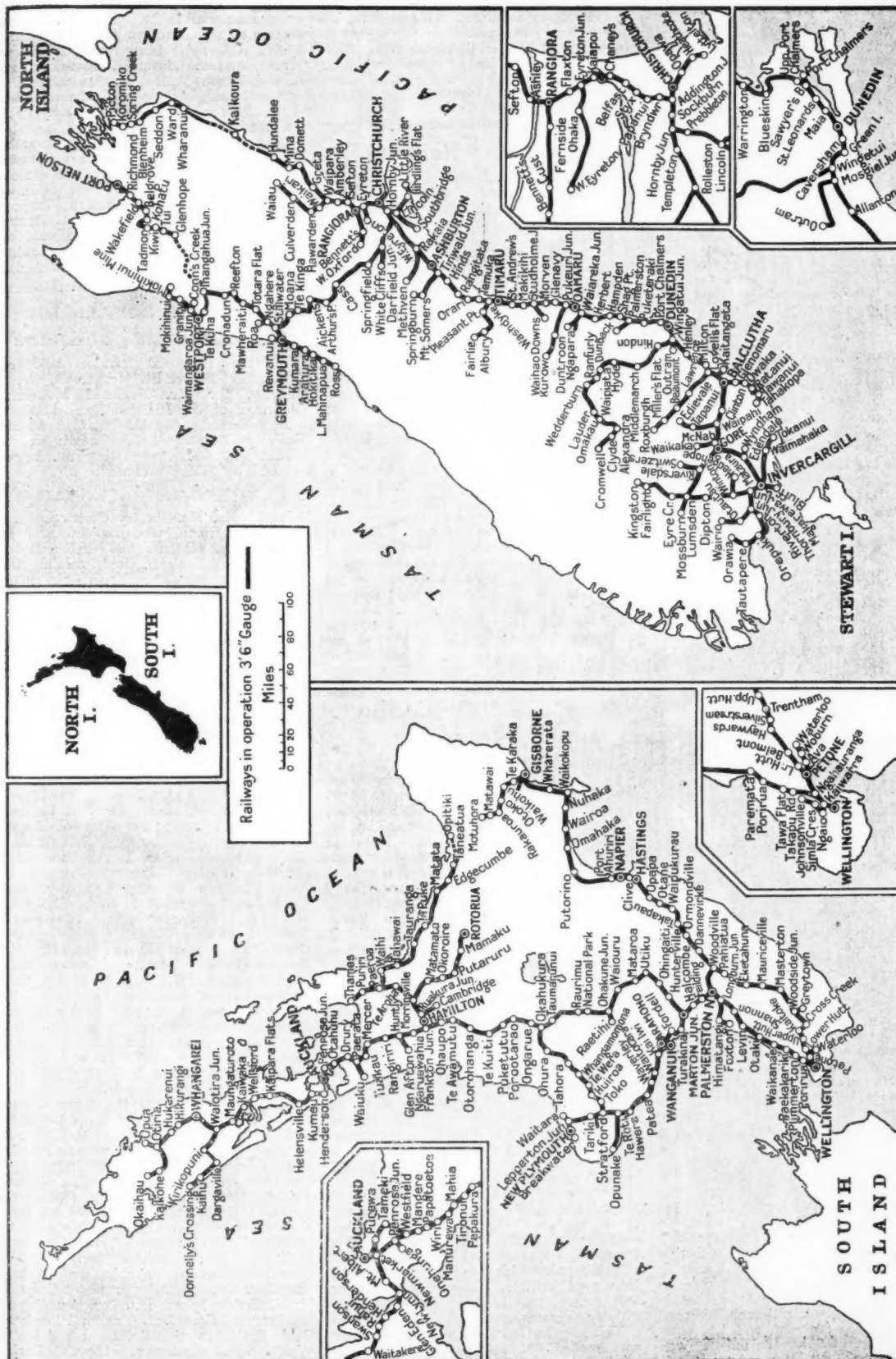
Apart from steam locomotives, which have recently been produced in great quantities for use in Roumania, Slovakia, and Yugoslavia, Germany has manufactured a number of fast electric locomotives for the traffic on the main lines radiating from Vienna. These electric locomotives are built by the Wiener Lokomotivfabrik A.G. in Vienna (Floridsdorf) and in Wiener-Neustadt.



Austrian-built 2-8-4 express locomotive, said to be the most powerful in Europe, and now Type 12 of the Reichsbahn



A 2-8-2 tank locomotive built in Austria in 1942 for the Slovak State Railways



The railway systems of New Zealand, all of 3 ft. 6 in. gauge, and all owned by the Government. In recent years steps have been taken to link isolated sections; the most recently-completed are between Waikopu and Gisborne, and between Dargaville and Kiriokopuni (North Island). Two important further links, indicated by dotted lines at the north of South Island, remain uncomplete (see opposite page)

Argentine Railway Tariffs

A Decree issued by the Argentine Government on July 28, as recorded in our August 6 issue, authorised the foreign-owned railways to increase their passenger fares and goods rates by 5 per cent.; the companies' request for an increase of 10 per cent. in passenger fares, and 20 per cent. in goods rates, has been rejected. Of the increase granted, 3 per cent. will apply to the ordinary goods, livestock, parcels, passenger, and luggage tariffs, and the proceeds will be paid into the railway pension fund. The remaining 2 per cent., which will be levied on certain special goods rates, is to be used for the creation of a fund for distribution among married employees whose earnings are less than 200 pesos a month. Thus the increase will not alleviate the companies' financial position.

In rejecting the companies' appeal for an increase of 10 per cent. in passenger fares and 20 per cent. in goods rates, the Government stated that the railway companies, under the terms of their concessions, were obliged to provide a regular and efficient service, charging just and reasonable tariffs, which should be in proportion to the cost of the service and its value to the public. The Government's note said that, although an all-round increase in the tariffs would solve some at any rate of the companies' problems, such a measure would be, in the long run, prejudicial to the interests of the country and the public, to whom the increased goods rates would be passed on in the form of higher prices for commodities. The companies' main items of expenditure were their wages and fuel bills. The former could not be reduced; and, in respect of the latter, means would be sought for assisting the railways to obtain the necessary fuel supplies. It was admitted, however, that, although the maximum profits which the railways were entitled to earn was limited by law, they could not be forced to work at a loss, nor be prevented, within the limit mentioned, from earning a reasonable return on their invested capital.

The Government justified the increase of 2 per cent. for the benefit of the staff on the grounds that the railways employed over 61,000 men whose average earnings were less than 200 pesos a month; of these, 40,800 were married. As to the pension fund, the Government noted that, under Law No. 12,825, the fund was faced with an increase in expenditure of 8,300,000 pesos a year, although last year the income had declined by a further 1,900,000 pesos. Some means had to be found for augmenting the revenue of the fund.

Our correspondent in Argentina states that the Government's scheme for paying a bonus to married railway employees with incomes below 200 pesos a month would appear to be based on a proposal put forward during recent discussions between the Government, the companies, and the unions. Although the companies were unable to face any additional disbursements under this head until the financial situation had improved, it was proposed that, to offset the increase in the cost of living, which bore specially heavily on the lower-paid staff, a family bonus might be paid to married men in the lower wage-groups out of revenue provided by a proportionate increase in tariffs. This proposal, although favoured by both the Government and the companies, was rejected by the unions, who demanded a general increase on a scale

varying from 20 per cent. on salaries up to 160 pesos a month; 15 per cent. on those from 161 pesos to 260 pesos a month; and 10 per cent. on those from 261 pesos and upwards. It was estimated that such increases would add some 27,000,000 pesos a year to the railway wage-bills.

L.M.S.R. "Railbars"

To meet wartime travelling conditions and help passengers to obtain snacks to take with them on the trains, the railways have made provision for additional serving-counter facilities. On the L.M.S.R. these facilities take the form of two types of "railbar." The first type, which was described in our issue of January 29, was introduced at Euston in January, and 900,000 persons have been served at it. For non-terminal stations another design has been adopted. It fulfils three major requirements: compactness, with everything to hand to allow serving to be carried out with a minimum of staff, rapid erection to avoid interference with railway traffic, and economy in the use of building materials. It is entirely pre-fabricated and is believed to be the first pre-fabricated building in this country to include plumbing, lighting, and paint finish. The "railbar" is in five sections, all of which can be loaded in one van, and its erection takes one day only. The first of these "railbars" is at Crewe and others are being opened at Preston, Derby, Sheffield, and Rugby. They will be on the platforms and, together with existing refreshment rooms, they will permit service of tea and light refreshments at various places along the length of the trains and avoid crowding at one part of the platform.

Chapparr Rift Railway Closed

The most spectacular and imposing length (48 miles) of the famous Sind-Pishin section of the North Western Railway of India has been closed to traffic, and is to be dismantled. This section includes the Chapparr Rift, Louise Margaret Bridge, and Mudgorge. The great engineering works connected with the construction of this part of the line were described in our issue of July 26, 1940.

This railway carried very light traffic since the opening of the Mushkal-Bolan route to Quetta, but it served as an alternative to that strategic railway, which in case of emergency might have proved valuable. A serious flood about a year ago caused a 90-ft. breach in the embankment carrying the line along the scree slope of the gorge, and repair would have entailed throwing the line back into a new tunnel, the cost of constructing which was estimated at about £120,000. It was considered advisable, therefore, to abandon the line from Zardalu, near the Khost coalfield, to Khanai and Bostan. The Khanai-Bostan section will continue to be worked as a 2 ft. 6 in.-gauge, instead of a mixed-gauge, section.

Bridges and track are to be dismantled throughout the 48-mile length, except the 150-ft. span of the Louise Margaret Bridge—the removal of which is not justifiable financially—and others between Kach and Khanai, which are to be converted into road bridges. The rails doubtless will prove valuable for some military railway overseas.

This pioneer frontier mountain railway was opened 60 years ago. The solitary steel girders spanning the rift, hundreds

of feet above the river bed, will stand as a memorial to it. The Sibi-Zardalu section at the southern end of the Sind-Pishin Railway is being retained to serve Khost, and the Bostan-Khanai-Fort Sandeman (Zhob Valley) narrow-gauge line and a feeder road from Khanai to Kach will cater for any traffic there may be at the northern end.

Few railways have been more popular with sightseers, and a visit to Quetta used to be considered incomplete without a trip on a seat on the buffer-beam of an engine, or by trolley over the Chaparr Rift section. Many celebrities, including royal personages, have visited this remarkable line, completed despite extraordinary natural and personal difficulties.

Memorial Service for Mr. Reginald McKenna

At the memorial service held on September 13, at St. Margaret's, Westminster, for Mr. Reginald McKenna, Chairman of the Midland Bank Limited, and a Director of the Canadian Pacific Railway Company (whose death we recorded last week), the King was represented by Lord Wigram, who is a Director of the London Midland & Scottish Railway Company. Those present included also Mr. Stanley Christopherson, Deputy-Chairman, who has consented to succeed Mr. McKenna as Chairman, of the Midland Bank Limited, pending the appointment of a permanent chairman; Lord Ashfield, Chairman, London Passenger Transport Board, and Director, Midland Bank Limited; Commander Sir Charles Craven, Chairman & Managing Director, Vickers-Armstrongs Limited; Mr. P. Ashley Cooper, a member of the London Passenger Transport Board; Lord Davies, Director, Great Western Railway Company, and Midland Bank Limited; Sir Bernard Docker, Chairman, Birmingham Railway Carriage & Wagon Co. Ltd., and Director, Midland Bank Limited; Lord Ebbisham, Director, Southern Railway Company; Mr. L. C. Gamage, Vice-President & Joint Managing Director, General Electric Co. Ltd.; Sir Malcolm Hogg, Joint Deputy-Chairman, Westminster Bank Limited (also representing Mr. Rupert Beckett, Director, London & North Eastern Railway Company, and Chairman, Westminster Bank Limited); Mr. R. Holland-Martin, Chairman, Southern Railway Company, and Deputy-Chairman, Martins Bank Limited; Sir Francis Joseph, Director, London Midland & Scottish Railway Company, and Midland Bank Limited; Lt.-Colonel I. Leslie Melville, Managing Director, Glyn, Mills & Company; Mr. F. W. Motley, Acting European Manager, Canadian Pacific Railway; Mr. W. M. Neal, Director, Canadian Pacific Railway Company, and Vice-President, C.P.R. (also representing the President, C.P.R.); Sir Walter Preston, Director, Midland Bank Limited, and J. Stone & Co. Ltd.; Sir Edward Peacock, Director, Canadian Pacific Railway Company (also representing the Chairman of that company); Sir George Paish; Mr. Clive Pearson, Director, Southern Railway Company; Sir Thomas Royden, Chairman, London Midland & Scottish Railway Company, and Director, Midland Bank Limited; Mr. B. W. Roberts, General Purchasing Agent, Canadian Pacific Railway; Major-General Sir Frederick Sykes, Director, Associated Equipment Co. Ltd., and Callenders Cable & Construction Co. Ltd.; and Lord Wardington, Chairman, Lloyds Bank Limited.

"British Buses"

Copying British Railways

Until last year the provincial bus companies never advertised except in the form of time sheets and timetables, and local announcements by individual companies. Last year the policy was altered and an extensive advertising campaign was inaugurated very much on the lines of the institutional and propaganda advertising which for years past has been so well done by British railways and the L.P.T.B. Imitation is the sincerest form of flattery.

The British Omnibus Companies Public Relations Committee was constituted in May, 1942, and its objects were recorded as being "to bring to the attention of the public and keep before them the value to the community of the services rendered by the omnibus companies affiliated to the committee and the efficiency and economy of such services, to maintain a friendly understanding between the travelling public and the companies, and by publicity and otherwise to do all such things as may be considered conducive to the attainment of these objects." Two months were spent in preliminary organisation, and the formation of the committee was publicly announced in July of last year (see our issue of July 17, 1942, page 51).

Up to July of last year, upwards of 50

bus companies working in England, Scotland, and Wales, had become affiliated, and their fleets of vehicles totalled nearly 12,000. The press campaign of the committee was launched on July 15, 1942, when the first of the series of goodwill advertisements appeared. A standard sign bearing a single-deck coach and the words "British Buses" was designed to be inserted on all publicity matter, both national and local, issued by, or on the authority of the committee, and this sign has since become widely known and recognised. Eight national dailies and 172 of the more important provincial newspapers have been regularly carrying the committee's centrally-issued advertisements. The total number of appearances obtained for the advertisements to date exceeds 2,000. Of a variety of advertisements issued, the more recent have been in the "But for the Buses" and "Private Enterprise" themes. Posters and other display matter have been issued from time to time, linking up with the newspaper advertisements. Shortly after the inception of the scheme, the Select Committee on National Expenditure issued a Report (its fifteenth) stressing the need for a greater publicising of the difficulties of bus undertakings, and for an appeal for the co-operation of the public in the attempts made to overcome them. Both matters form part of the committee's campaign.

Under the provisions of Article 6 of

the committee's constitution, an executive committee was appointed to deal with the day-to-day work and generally to be responsible for the management of the committee's affairs. The first executive committee comprised Messrs. R. Beveridge, R. W. Birch, Sidney Garcke, Sir Joseph Nall, Messrs. J. H. Watts, and J. S. Wills. Mr. Garcke was appointed Chairman and Mr. Birch Director. This executive committee has prepared a report for the period ended June 30, 1943, to be presented to the members at the annual meeting on September 16, and we are indebted to Mr. R. J. Ellery, the Secretary, for supplying us with a copy of this document, from which some of our details are extracted.

A beginning has been made in regard to editorial work, and this side of the campaign will be developed as opportunity occurs. Among general matters which have received the attention of the executive committee are (a) the development of road-rail service publicising arrangements and, in particular, the extension of these facilities to non-rail-associated operators; (b) internal propaganda; and (c) the post-war re-establishment of the industry. The committee has had the co-operation of the Ministry of War Transport and the main-line railways.

The present membership comprises 61 companies, with a total of 13,268 buses at January 1 last, as shown in the accompanying table. The Tilling group is not a party to this scheme, but maintains a separate publicity campaign.

AFFILIATED COMPANIES AND THEIR REPRESENTATIVES ON THE COMMITTEE

Affiliated company	Buses owned*	Representative
1. Aldershot & District Traction Co. Ltd.	211	Sidney Garcke
2. Associated Bus Companies Limited	63	F. Peake
3. Barton Transport Limited	167	E. L. Taylor
4. Birch Bros. Ltd.	42	R. W. Birch
5. Birmingham & Midland Motor Omnibus Co. Ltd.	1,400	R. J. Howley
6. Black & White Motorways Limited	42	C. C. Power
7. Central S.M.T. Co. Ltd.	381	Sir Wm. J. Thomson
8. Chatham & District Traction Company	46	Col. H. I. Robinson
9. Cheltenham District Traction Company	29	J. H. Watts
10. City of Oxford Motor Services Limited	182	Sidney Garcke
11. County Motors (Lepton) Limited	18	J. S. Wills
12. David MacBryne Limited	53	H. T. Leith
13. Devon General Omnibus & Touring Co. Ltd.	187	Sidney Garcke
14. East Kent Road Car Co. Ltd.	407	Sidney Garcke
15. East Midland Motor Services Limited	150	J. S. Wills
16. East Yorkshire Motor Services Limited	208	J. S. Wills
17. Everingham Bros. Ltd.	20	S. H. Everingham
18. J. Fishwick & Sons	29	B. Fishwick
19. Gosport & Fareham Omnibus Company	34	H. O. White
20. Greenock Motor Services Company	101	Sir Wm. J. Thomson
21. Griffin Motor Co. Ltd.	36	T. J. Jones
22. Hebble Motor Services Limited	81	J. S. Wills
23. Hicks Bros. Ltd.	37	Maxwell Hicks
24. Highland Transport Co. Ltd.	50	Provost H. MacKenzie
25. J. James & Sons Ltd.	33	A. R. James
26. Lancashire United Transport & Power Co. Ltd.	264	E. H. Edwards
27. Lanarkshire Traction Co. Ltd.	103	R. Beveridge
28. Lianelly & District Electric Supply Co. Ltd.	9	S. Dudman
29. Maidstone & District Motor Services Limited	476	Col. H. I. Robinson
30. Mansfield District Traction Company	83	Sir Joseph Nall
31. Mexborough & Swinton Traction Company	4	J. S. Wills
32. Midland General Omnibus Co. Ltd.	207	Sir Joseph Nall
33. Northern General Transport Co. Ltd.	449	R. J. Howley
34. North Western Road Car Co. Ltd.	519	Sidney Garcke
35. Potteries Motor Traction Co. Ltd.	313	R. W. Birch
36. Ralph's Garages Limited	34	E. V. Ralph
37. Red & White Services Limited	321	J. H. Watts
38. Rhondda Transport Co. Ltd.	153	H. Kingsbury
39. Ribblesdale Motor Services Limited	987	J. S. Wills
40. Scottish Motor Traction Co. Ltd.	595	Sir Wm. J. Thomson
41. Scout Motor Services Limited	20	E. Watkinson
42. Sheffield United Tours Limited	61	J. S. Wills
43. Southdown Motor Services Limited	534	Sidney Garcke
44. South Wales Transport Co. Ltd.	294	Sidney Garcke
45. Stratford-upon-Avon Blue Motors Limited	21	O. C. Power
46. Sunderland District Omnibus Co. Ltd.	75	H. A. Stagg
47. Trent Motor Traction Co. Ltd.	325	R. J. Howley
48. Tynemouth & District Transport Co. Ltd.	44	R. J. Howley
49. Tyneside Tramways & Tramroads Company	20	G. W. Hayter
50. United Welsh Services Limited	105	J. H. Watts
51. Venture Limited	45	T. I. Thornycroft
52. Wakefield's Motors Limited	16	R. J. Howley
53. W. Alexander & Sons Ltd.	1,200	Sir Wm. J. Thomson
54. W. C. Standerwick Limited	54	J. S. Wills
55. Western S.M.T. Co. Ltd.	480	Sir Wm. J. Thomson
56. Western Welsh Omnibus Co. Ltd.	482	J. S. Wills
57. West Riding Automobile Co. Ltd.	255	H. England
58. Yelloway Motor Services Limited	33	Herbert Allen
59. Yorkshire Traction Co. Ltd.	310	J. S. Wills
60. Yorkshire Woollen District Transport Co. Ltd.	252	J. S. Wills
61. Youngs' Bus Service Limited	118	R. L. Young

* At January 1, 1943

Total 13,268

Charles Roberts & Co. Ltd.

Mr. Duncan Bailey, O.B.E., M.I.Mech.E., Chairman and Managing Director, presiding at the sixteenth ordinary general meeting of Charles Roberts & Co. Ltd., said that after providing for taxation, and all other outgoings chargeable to revenue, the net profit of the company and its subsidiaries amounted to £68,310, although £15,249 higher than that for the previous year, compared unfavourably with the £104,677 profit for the last pre-war financial year (ended March 31, 1939). This provided a further striking example of the contribution which private enterprise continued to make, both in money and munitions, to the national war effort.

The balance sheet was a well-earned and legitimately earned result only made possible by many years of care and unremitting spade work, plus some years of sacrifice in those depressed periods when no return could be made to the shareholders. During those long years, when circumstances permitted, the company had carefully ploughed back into the business any funds available, and as a consequence these works were in a thorough state of efficiency when called upon.

He would like to add a word on behalf of the managers, foremen, and office staff, to whom, in his opinion, too little appreciation and thanks had been publicly given. He desired to pay his tribute to this section of the community not only in these works but those thousands engaged in similar work all over the country. These people had worked long hours, day by day, often seven days a week, with the certain knowledge that their remuneration for such services would, in many cases, not be increased, but heavily reduced by war taxation, and he would contend that the whole country owed to such people a deep debt of gratitude.

Notes and News

Craven Bros. (Manchester) Ltd.—The directors have declared an interim dividend of 5 per cent. the same as a year ago.

Costa Rica Railway Co. Ltd.—Payment is announced of 3½ per cent., less tax, on the 6½ per cent. first mortgage debentures, in respect of the half-year's arrears of interest due on July 1 last. Payment of the interest due on January 1 was announced in July.

L.N.E.R. Five Per Cent Redeemable Debenture Stock.—For the purpose of preparing the warrants for interest payable on the 5 per cent. redeemable debenture stock of the London & North Eastern Railway Company on October 15 the balance will be struck as at the close of business on September 28 (see our Official Notices, page 295).

L.N.E.R. (Extension of Time) Order.—The Minister of War Transport has made the London & North Eastern Railway (Extension of Time) Order 1943 (S.R. & O. 1943 No. 1218) extending by three years the time limited by Section 6 of the L.N.E.R. Act 1935 as extended by the L.N.E.R. (Extension of Time) Order 1940 for the completion of certain railways at Ipswich and Wood Green.

Horticultural Show at Euston.—The first annual show of the Euston Station Horticultural Association was held at that station on September 3. It was opened by Mr. G. L. Darbyshire, Vice-President, L.M.S.R., who was supported by Colonel H. E. Roberts, London District Passenger Manager, L.M.S.R., who is President of the Association. For the 44 classes in the show, 300 entries were received from railwaymen of all grades. The produce, which was auctioned at the conclusion of the show,

realised £35 for the L.M.S.R. Prisoners-of-War Fund. The Chairman of the new Association is Mr. W. Euing, and the Secretary, to whose untiring work the success of the show was largely due, is Mr. G. C. Morley.

Cammell Laird & Co. Ltd.—The interim dividend of 4 per cent. has been maintained.

Permanent Way Institution.—A meeting of the Manchester & Liverpool Section will be held in the Temperance Institute, Southport, on September 18, at 3 p.m., when, at the conclusion of other business, a lantern lecture on "The Reconstruction of the River Nene Bridge, L.M.S.R., Peterborough" will be given by Mr. W. H. Best, A.M.Inst.C.E.

Rhodesia Railways Trust Limited.—Revenue for the year to March 31, 1943, was £190,043, compared with £314,380 for the preceding year. The difference is accounted for by the reduction in the dividend received from Rhodesia Railways Limited. Last year's accounts were credited with two dividends from this source. Income tax and N.D.C. were accordingly reduced from £110,321 to £64,862, and the net revenue was £121,316, compared with £200,198. Dividend for the year is 12 per cent. (16 per cent.) payable, less tax at 7s. 3d. The carry forward is £131,874, against £163,999.

Coast Lines and Railways Rumour.—Rumours of a link-up with the railways caused a sharp rise last week of the shares of Coast Lines Limited. Sir Alfred Read, Chairman, denied the truth of the rumours on Wednesday. The L.M.S.R., which already has a joint financial interest with Coast Lines in David MacBrayne Limited, and in various air transport companies, and which is also interested in the Irish Sea services, as is Coast Lines, was specifically

mentioned in connection with the rumours. Another factor was the suggestion that further co-ordination between the railways and the coastal services was being advocated by the Ministry of War Transport.

Swedish Privately-Owned Railways Results.—The combined working receipts of the Swedish private railway companies during the first four months of the year were kr. 52,700,000, as compared with kr. 45,200,000 for the same period of last year, an increase of nearly 16 per cent.

British and Irish Railway Stocks and Shares

Stocks	Highest 1942	Lowest 1942	Prices	
			Sep. 10, 1943	Rise/ Fall
G.W.R.				
Cons. Ord.	58	39	59½	— ½
5% Con. Pref.	115½	105½	110½	— ½
5% Red. Pref. (1950) ..	109½	103½	107	—
5% Rt. Charge	133½	123½	126½	—
5% Cons. Guar.	130½	121½	122½	—
4% Deb.	117	105	108½	—
4% Deb.	118	108	110½	—
4% Deb.	125	113	118½	—
5% Deb.	137	127	129	—
2½% Deb.	77	70	75	—
L.M.S.R.				
Ord.	28½	16½	31½	— 1
4% Pref. (1923)	63½	50½	60	— ½
4% Pref.	76½	67½	75	— ½
5% Red. Pref. (1955) ..	103½	94½	103½	—
4% Guar.	104½	97½	99½	— ½
4% Deb.	108½	101½	104½	—
5% Red. Deb. (1952) ..	111	107½	109½	—
L.N.E.R.				
5% Pref. Ord.	9½	2½	9½	— ½
5% Def. Ord.	5	1½	4½	— ½
4% First Pref.	62	49½	67	— ½
4% Second Pref.	32½	18½	32	— ½
5% Red. Pref. (1955) ..	95½	79	92½	— ½
4% First Guar.	98	88	96	— ½
4% Second Guar.	90	78	83½	— ½
3% Deb.	85	76	80½	—
4% Deb.	106½	100½	102½	—
5% Red. Deb. (1947) ..	106	103	104	—
4½% Sinking Fund Red. Deb.	106	102½	105½	—
SOUTHERN				
Pref. Ord.	77	61½	74½	— ½
Def. Ord.	23½	14½	24	— ½
5% Pref.	112½	104	109½	— ½
5% Red. Pref. (1964) ..	110½	105½	111½	—
5% Guar. Pref.	131	121½	123½	—
5% Red. Guar. Pref. (1957)	115½	109½	112½	—
4% Deb.	116	104½	107	— ½
5% Deb.	134	125½	129½	—
4% Red Deb. (1962- 67)	110½	106	107	— ½
4% Red. Deb. (1970- 80)	111	106½	107	— ½
FORTH BRIDGE				
4% Deb.	109½	108	106	—
4% Guar.	105½	100	104½	—
L.P.T.B.				
4½% "A"	122½	111	117½	— ½
5% "A"	131½	122	124½	— ½
3% Guar. (1967-72) ..	95½	97½	98	— ½
5% "B"	121	111½	115½	— ½
5% "C"	56½	38	65	— ½
MERSEY				
Ord.	27½	20½	32	—
3% Perp. Pref.	61½	56½	61	—
4% Perp. Deb.	102½	99½	103	—
3% Perp. Deb.	80½	76	78	—
IRELAND				
BELFAST & C.D.				
Ord.	9	4	9	—
G. NORTHERN				
Ord.	29½	12½	19	—
G. SOUTHERN				
Ord.	25	10	16½	—
Pref.	29	12½	24½	— ½
Guar.	53	35½	40	—
Deb.	71½	55½	63½	— ½

\$ ex-dividend



Colonel H. E. Roberts, London District Passenger Manager, L.M.S.R., with Mr. G. C. Morley, Secretary of the Euston Station Horticultural Association, and Mr. G. L. Darbyshire, Vice-President, L.M.S.R., examining exhibits at the annual show of the Association, reference to which is made above

OFFICIAL NOTICES

London and North Eastern Railway

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

Working expenditure at kr. 38,800,000 was only about 8½ per cent. higher (kr. 35,700,000) and there was a working surplus of kr. 13,900,000 (kr. 9,500,000). Allocations to renewal fund aggregated kr. 3,500,000 (kr. 3,200,000), interest absorbed kr. 1,500,000 (kr. 1,600,000), taxation totalled kr. 2,300,000 (kr. 2,200,000) and other items of expenditure kr. 400,000 (kr. 300,000). Net profit was kr. 6,200,000 as compared with kr. 2,200,000 for the same period of 1942, an increase of approximately 185 per cent.

British Insulated Cables Limited.—Announcement is made of an interim dividend of 5 per cent., less tax, the same as a year ago.

Twentieth Century Accident.—It is reported that the locomotive hauling the Twentieth Century Limited blew up on September 7, causing the deaths of three members of the crew and the derailment of part of the train. The train, which is operated by the New York Central System, runs between New York and Chicago and vice versa. The accident occurred during the Chicago-New York trip.

Institute of Welding Programme.—The programme of the Institute of Welding for the next three months includes a paper on "Some Aspects of Machine Design," by Mr. E. Hassler, to be read at Conway Hall, Red Lion Square, Holborn, W.C.1 (October 13); and a paper on "Welding Applied to Trackwork on the L.M.S.R.," by Mr. H. O'Neill, and Mr. H. W. Swinnerton, at the Institution of Civil Engineers, Great George Street, Westminster, S.W.1 (November 10). Meetings during 1944 at the Institution of Civil Engineers include a paper on "Recent Developments in the Welding of Light Metals," by Mr. W. K. B. Marshall (March 1); "The Fabrication of Medium-Sized Components," by Mr. K. K. Doherty (April 12); and "Facts Controlling the Weldability of Steel," by Mr. L. Reeve (May 17). It is hoped to arrange a paper on flame cutting, for presentation on February 9; details will be announced later.

Shabani Railway Agreements.—In his statement accompanying the annual report of Rhodesia Railways Trust Limited, Sir Douglas O. Malcolm, the Chairman, refers to a new agreement regulating charges for the carriage of asbestos between the Shabani Railway Company (subsidiary) and the Rhodesian and General Asbestos Corporation. The agreement is based on a guarantee of working expenses, loan service and a dividend of 4½ per cent. per annum and operates from October 1, 1942. Rhodesia Railways Trust and Rhodesian Railways have also made a new agreement with the Shabani Company providing that the interest on the outstanding advances to the latter company be reduced from

NOTICE is hereby given that, for the purpose of preparing the Warrants for Interest payable on the 15th October, 1943, on the Company's 5 per cent. Redeemable Debenture Stock, the balance will be struck as at the close of business on 28th September, and such Interest will be payable only to those Stockholders whose names are registered on that date.

Transfers of the 5 per cent. Redeemable Debenture Stock should, therefore, be lodged with the Registrar of the Company at Hamilton Buildings, Liverpool Street Station, London, E.C.2, before 5 p.m. on 28th September.

By Order,
W. H. JOHNSON,
Secretary.

Marylebone Station,
London, N.W.1.
17th September, 1943.

6½ per cent. to 4½ per cent. per annum and that the advances be repaid by 1959 by means of a cumulative sinking fund starting at £9,162 for the first year.

British Oxygen Co. Ltd.—An interim dividend of 7 per cent. has been declared the same as a year ago.

Stewarts and Lloyds Limited.—The directors have declared the following interim dividends for the half-year ended June 30, 1943, namely:—At the rate of 6 per cent. per annum on the cumulative first preference stock; at the rate of 10 per cent. per annum on the cumulative second preference stock; and at the rate of 5 per cent. per annum on the cumulative third preference stock to be paid less tax on October 30.

L.P.T.B. Platform Refreshment Service.—The London Passenger Transport Board has made arrangements for a catering firm to serve refreshments to passengers on the platforms at several interchange stations, and refreshment-trolleys have been installed at Baker Street, Ears Court, Harrow-on-the-Hill, Kings Cross, and Liverpool Street Stations; it is hoped that Acton Town will be included in the near future. The refreshments include tea, soft drinks, sandwiches, and cakes, and are served by uniformed assistants. The innovation is proving popular with passengers, particularly members of the Armed Forces passing through London, who have not time for a sit-down meal.

Awards to Southern Railway Locomotive Staff.—Presentations were made recently to four members of the Locomotive Department, Ashford, Southern Railway, for acts of gallantry and devotion to duty performed under difficult conditions. Mr. T. E. Chimes, Assistant Locomotive Running Superintendent, presided, supported by Mr. D. Sheppy, Eastern Divisional Locomotive Running Superintendent, Mr. F. Gilbert, Deputy Chief Officer for Labour & Establishment, and many officials from Kent locomotive depots. Diplomas and cheques were presented to Driver C. G. Gilbert and Fireman A. D. Hills, of Ashford, to record the company's appreciation of their resourcefulness when a German "sneak" raider swooped on to a train, machine-gunning the engine, and flying so low that it touched the dome; amid a cloud of escaping steam the aeroplane crashed to the ground. Another diploma commemorates the courage and devotion to duty of Driver W. D. Edwards. He was "shot-up" by an enemy raider, and, although his fireman was unable to help him, succeeded in controlling his engine and in pulling it up without injury to the passengers. Driver Edwards died shortly after admission to hospital. The diploma was handed to his brother. A cheque was awarded to Driver Stickells, who recently was working a Dover-Victoria train when the engine

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failed; amid steam and scalding water he made his way round the footplate and performed vital adjustments which enabled the journey to be completed in safety. These men have been commended in *The London Gazette*.

Contracts and Tenders

Below is given a list of orders placed recently by the Egyptian State Railways:—

William Ridgway & Sons Ltd.: Augers.
Babcock & Wilcox Limited: Cone cutters.
Clyde Crane & Engineering Company: Tension springs.

B. & S. Massey Limited: Pull cords.
John Spencer & Sons (1928) Ltd.: Springs.
British Insulated Cables Limited: Cable.
T.N. Stores: Shunting poles, superheater flame tubes.

I.C.I. Metals Limited: Tubes.
Standard Telephones & Cables Limited: Jacks.

Siemens Bros. & Co. Ltd.: Springs, telephone and telegraphic materials, lampholders.
Ericsson Telephones Limited: Buzzers, injectors.

British Thomson-Houston Co. Ltd.: Feeder panel.

English Electric Co. Ltd.: Pillars.
Buck & Hickman Limited: Belt fasteners.
Joseph Jackson & Sons: Belts.
James Hendry Limited: Thread.
Alfred Herbert Limited: Raw hide.
General Electric Co. Ltd.: Voltmeter, condensers, brushes.

Imperial Chemical Industries Limited: Leather cloth, copper tubes.

Rylands Bros. Ltd.: Stay strand wire.

Mulcott Belting Co. Ltd.: Belting.

Drawing Office Supplies Limited: Tracing paper.

B. Laporte Limited: Perchlorate of potassium.

Baird & Tatlock (London) Limited: Measuring instruments.

Budenberg Gauge Co. Ltd.: Steam pressure gauge.

Clayton Tinplate Co. Ltd.: Tinned sheet.

Midland Electric Manufacturing Co. Ltd.: Cut-out bases.

Automatic Telephone & Electric Co. Ltd.: Springs.

Alley & MacLellan Limited: Bolts and nuts for connecting rods.

W. T. Henley's Telegraph Works Co. Ltd.: Wire.

Morgan Crucible Co. Ltd.: Brushes, fuses.

Turner Bros. Asbestos Co. Ltd.: Steam gland packing.

Telegraph Condenser Co. Ltd.: Condensers.

John Rabone & Sons Ltd.: Measuring bands.

Plessey Company: Condensers.

Marconi's Wireless Telegraph Co. Ltd.: Resistances.

Zenith Electric Co. Ltd.: Wireless spare parts.

Yorkshire Patent Steam Wagon Company: Spares for steam railcars.

Vacuum Brake Co. Ltd.: Spares for steam railcars.

Sentinel Waggon Works (1936) Limited: Superheater coils.

Phoenix Telephone & Electric Works Limited: Telephone receiver screws.

Railway Stock Market

Although a more cautious attitude developed, and earlier gains were not fully held, the main effect of the trend of the war news on Stock Exchange markets has been to accentuate the factors which have been developing in recent months. The surrender of Italy was inclined to lead to changed views as to the duration of the war. Consequently there was further expansion in demand for shares of many industrial companies and other equity securities which have received reduced dividends in recent years, but which according to current market assumptions, offer possibilities of a return to pre-1939 dividends in the post-war period. Little attention was given to the fact that in many cases yields on the basis of current dividends are very small, nor to the fact that the post-war outlook is still very difficult to assess at this stage. There was an easier tendency in gilt-edged, particularly the long-dated stocks, which extended to other front rank securities of the fixed interest-bearing type; but little selling was reported. Elsewhere, a certain amount of speculative attention was given to European bonds, although as in most other sections which developed a rising trend, earlier gains have not been held at the time of writing. The invariable tendency is for Stock Exchange markets to attempt to discount the future a long way ahead, but prevailing market views as to the outlook for different groups of securities are not necessarily

correct, although for the time being they naturally have a dominating influence on the trend in values. Moreover, it is not improbable that market views may be subject to rapid changes as and when it becomes easier to assess the post-war outlook. Meanwhile, the assumption is that, bearing in mind the weight of money seeking investment, the upward trend in equity securities of companies which normally specialise in peace-time civilian needs will be continued as time proceeds.

Home railway junior stocks have been a marked exception to the latest upward movement in equity securities, and have recorded sharp declines on balance. Nevertheless current prices and large yields would be justified only if lower dividends were in prospect after the war and if the railways were to be treated unfairly in any post-war reorganisation of transport. It is impossible to say what form the latter may take, but there is every reason to expect that the railways and their stockholders will receive fair treatment, and moreover, if a good measure of success is achieved in securing full employment of the nation's resources after the war, higher dividends than those that can be paid under the existing financial agreement should be possible. Furthermore, a point often overlooked is that the existing agreement and dividends around current rates may very well continue until the question of transport organisation is finally decided. In fact, home railway junior stocks are one of the few groups of equity securities which

appear to be undervalued definitely both on the basis of current yields and on reasonable hopes as to the post-war outlook; for the time being, however, the market is disposed to take a pessimistic view of the latter, and this is the main influence dominating the junior stocks. Prior-charge and senior stocks were slightly lower where changed, the trend in gilt-edged having governed the tendency in securities of the fixed interest type.

Declines in home railway junior stocks have been pronounced, but this was attributed mainly to the small demand in evidence; selling was not heavy. Compared with a week ago, Great Western ordinary has declined from 61½ to 59½ at the time of writing. L.M.S.R. ordinary moved down from 32½ to 30½, the senior preference from 75½ to 74½, and the 1923 preference from 61 to 59. L.N.E.R. first preference was 58½, compared with 60½ a week ago, and the second preference 30½, compared with 33; the guaranteed stocks were also lower on balance. Southern preferred reacted from 76 to 74 and the deferred from 24½ to 23½. London Transport "C" declined from 65½ to 64½.

Although better on balance in many instances, Argentine railway stocks came under the subdued trend which developed in markets generally. Elsewhere, Great Western of Brazil issues declined on the proposal to extend the debenture moratorium period. Part of an earlier rally in French railway sterling bonds was not held. Canadian Pacific eased.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ending	Traffic for week		No. of Weeks	Aggregate traffic to date			Shares or stock	Prices						
			Total this year	Inc. or dec. compared with 1941/2		Totals		Increase or decrease		Highest 1942	Lowest 1942	10 Sept. 1943	Yield % (See Notes)			
						1942-3	1941-2									
			£	£		£	£	£								
South & Central America	Antofagasta (Chili) & Bolivia	834	5.9.43	33,620	+	19,890	35	1,000,900	754,020	+	246,880	Ord. Stk.	14	7½	14½	NIL
	Argentine North Eastern	753	4.9.43	13,536	+	1,926	10	131,586	129,312	+	2,274	"	6½	3	—	NIL
	Bolivar	174	Aug. 1943	4,508	+	718	35	41,913	35,191	+	6,722	6 p.c. Deb.	19½	10	204	NIL
	Brazil	...	4.9.43	89,400	+	2,460	10	759,120	809,280	—	—	Bonds	20½	9	20	NIL
	Buenos Ayres & Pacific	2,807	4.9.43	161,160	+	36,060	10	1,310,940	1,201,200	+	50,160	Ord. Stk.	7½	4	6½	NIL
	Buenos Ayres Great Southern	5,080	4.9.43	57,960	+	3,240	10	444,060	469,800	+	109,740	Ord. Stk.	12½	7½	14½	NIL
	Buenos Ayres Western	1,930	4.9.43	144,270	+	20,610	10	1,191,258	1,178,892	+	25,740	"	12½	6	13½	NIL
	Central Argentine	3,700	4.9.43	30,664	+	10,881	10	279,715	195,439	+	12,366	"	9½	4½	9½	NIL
	Do.	...	4.9.43	23,251	+	10,490	4	23,251	12,761	+	—	Dfd.	3½	2½	4	NIL
	Cent. Uruguay of M. Video	972	July, 1943	26,425	+	9,165	28	146,917	98,475	+	84,276	Ord. Stk.	8	4	4	NIL
	Costa Rica	262	July, 1943	21,234	+	4,122	10	183,882	165,390	+	10,490	1 Mt. Db.	16½	11	14	NIL
	Dorada	70	4.9.43	16,800	+	6,400	35	546,800	354,400	+	48,442	Ord. Stk.	90½	89	94½	6½
	Entre Rios	808	4.9.43	55,631	+	23,215	10	472,111	381,182	+	18,492	Ord. Stk.	33	4½	7	NIL
	Great Western of Brazil	1,030	June, 1943	7,285	-	2,540	34	68,425	54,765	+	192,400	Ord. Sh.	9½	9½	40½	NIL
	International of C. Amer.	794	Aug. 1943	33,774	+	3,914	34	1,161,772	1,032,457	+	\$215,502	"	3½	—	—	NIL
	Interoceanic of Mexico	22½	Aug. 1943	33,774	+	3,914	34	1,161,772	1,032,457	+	129,315	1st Pref.	1½	5/3	1½	NIL
	La Guaira & Caracas	1,918	31.8.43	ps. 696,300	+	ps. 252,800	8	ps. 3,611,100	ps. 2,719,700	+	129,315	5 p.c. Deb.	11½	5	86½	NIL
	Leopoldina	483	31.8.43	15,163	+	300	32	184,706	167,328	+	17,378	Ord. Stk.	6½	3½	1½	NIL
	Mexican	319	June, 1943	8,898	+	679	34	102,148	125,118	-	22,970	"	1	—	—	NIL
	Midland Uruguay	382	31.8.43	\$5,436,000	+	\$1,348,000	10	\$49,923,000	\$36,458,000	+	17,378	Ord. Sh.	77½	3½	77½	NIL
	Nitrate	274	3.9.43	108,000	+	c. 29,000	1	c. 108,000	c. 79,000	+	22,970	Pr. Li. Stk.	53	40	76	NIL
	Paraguay Central	1,059	Aug. 1943	106,923	+	21,118	9	206,941	165,606	+	41,335	Pref.	19½	5½	14½	NIL
	Peruvian Corporation	...	July, 1943	108,000	+	c. 29,000	1	c. 108,000	c. 79,000	+	c. 29,000	"	—	—	—	NIL
	Salvador	100	15.10.43	29,843	+	16,580	34	1,458,837	1,270,087	+	188,752	Ord. Stk.	59	41	59	3½
	San Paulo	153½	Aug. 1943	6,215	+	980	37	9,730	11,725	-	1,995	Ord. Sh.	41½	23½	28½	NIL
	Taltal	160	4.9.43	55,631	+	23,215	10	472,111	381,182	+	90,929	Ord. Stk.	8½	2½	5½	NIL
	United of Havana	1,301	June, 1943	1,438	+	399	52	17,255	14,305	+	2,950	"	—	—	—	NIL
Uruguay Northern	73	June, 1943	1,896,000	+	369,600	35	37,946,200	33,002,600	+	4,943,600	Ord. Stk.	16½	9½	16½	NIL	
Canada	Canadian Pacific	17,034	31.8.43	28,695	+	5,010	17	91,770	63,285	+	28,485	—	—	—	—	NIL
	Barsi Light	202	31.7.43	264,975	+	33,087	8	449,400	561,082	-	111,682	—	—	—	—	NIL
	Bengal & North Western	2,090	Nov., 1942	932,775	+	84,975	46	10,031,400	9,111,000	+	920,400	Ord. Stk.	102½	88	102½	3½
	Bengal-Nagpur	3,267	Feb. 1943	268,500	+	56,293	7	1,402,950	1,113,027	+	289,923	"	105½	87	107½	3½
	Madras & Southern Mahratta	2,939	20.5.43	555,750	+	5,072	8	115,950	99,909	+	16,041	"	103½	88½	103½	4½
Rohilkund & Kumaon	571	Nov., 1942	189,379	+	5,937	6	975,109	890,602	+	84,507	"	103½	88½	103½	4½	
South Indian	2,349	20.5.43	...	...	...	...	...	...	...	...	...	...	...	...	...
India	Egyptian Delta	...	10.6.43	13,955	+	52,968	10	98,431	75,685	+	19,746	Pr. Sh.	5½	1½	2½	NIL
	Manila	...	...	34,225	+	6,356	4	34,225	27,869	+	6,356	B. Deb.	44	35	40	8½
	Midland of W. Australia	277	31.7.1943	64,646	+	14,837	7	576,788	453,619	+	123,169	Inc. Deb.	95	100	100	—
	Nigerian	1,900	29.5.43	913,075	+	66,738	15	13,113,446	11,863,678	+	1,249,768	"	—	—	—	NIL
	South Africa	13,291	17.7.43	1,595,068	+	255,764	—	—	—	—	—	—	—	—	—	NIL
Victoria	4,774	Mar. 1943	...	...	...	...	...	...	...	...	...	...	...	...	...
Various																

Note. Yields are based on the approximate current prices and are within a fraction of ½
 † Receipts are calculated @ 1s 6d. to the rupee

Argentine traffics are given in sterling calculated @ 16½ pesos to the £
 § ex dividend